Analysis of the Baseline study results among onion farmers in Kayar (Senegal)

Barendrecht, January 31, 2024

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Introduction

This analysis is based on a survey carried out in the field in the Commune of Kayar, with the aim of collecting information on the entire onion value chain in this area. The sample is made up of 10 villages with 30 producers per village, making a total of 300 producers. A total of 286 producers were eventually surveyed by the research team. This lower number of net respondents is explained by the fact that there were cases of illegal emigration in the sample area and cases of reluctance among producers.

Field work was carried out by a research team that consisted of 10 master students from ENSA (Ecole Nationale Supérieure d'agriculture) in Thiés. The questionnaire was designed by ENSA and MEYS Emerging Markets Research, and consisted of a total of 96 questions (open and closed). The survey was done during the period October 16-20, 2023.

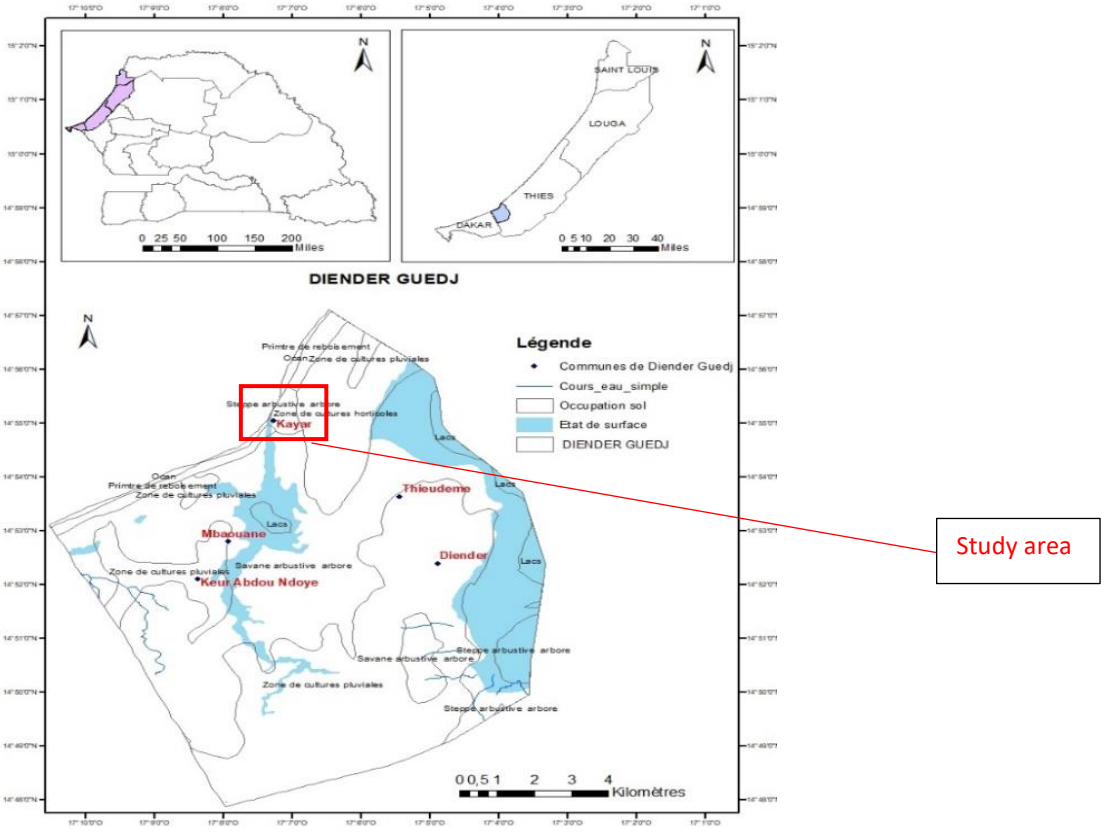
The structure of the analysis of the survey is as follows :

- Study area Kayar : a short introduction is given about the study area in Kayar ;
- Profile of the onion farmer in Kayar area : presented are the demographic and economic characteristics of the respondents. Demographic characteristics include the age and family status of producers. As for the socio-economic characteristics of the respondents, they concern education, marital status, activities carried out within households, the degree of supervision, membership in an association, etc. ;
- Storage and packaging of onions: the storage of onions in Senegal is a key issue in strengthening the onion value chain ;
- Costs of onion production : for cultivating and producing onions several costs are made, which can be divided between fixed and variable costs. Important costs for a farmer are for inputs (fertilizer, water, pesticides, etc.), seeds, and labour ;
- Financing of onion production : for financing onion production farmers depend on formal/informal lending, governmental subsidies or a combination ;
- Marketing of onions : selling the onions on the market can either be done indirectly (through traders) or directly to consumers. Knowledge about the market price, availability of storage facilities and transport are key in this market decision. Onion farmers are often confronted with all sorts of constraints in successfully selling their produce on the market, like for example lack of cold storage, not knowing market prices, and finding the right buyers.

1. Study area Kayar

The small city of Kayar (est. 40,000 inhabitants) is located in the Department Thiès, which is one of the three departments of the region Thiès. The area of Kayar is an integral part of the Niayes zone, the most important horticultural zone in Senegal. Kayar used to be the main fishing village in the country, but during the last ten years fish volumes have decreased dramatically turning many fishermen into full time horticultural farmers.

Farmers from Kayar deliver around 30% of the horticultural production coming from the Niayes, especially potatoes and onions. The total production value of all horticultural products from Kayar is estimated by the local farmers association APMK at 10 billion FCFA[1] per year, of which half comes from potato production.

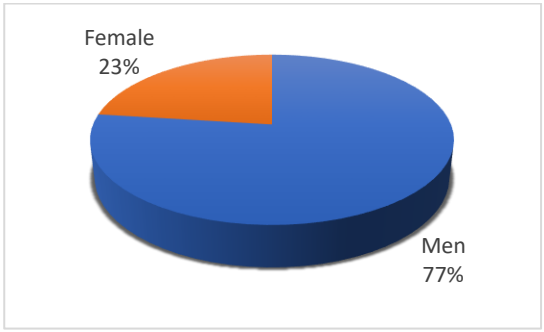


[1] The West African franc CFA (*Communauté Financière Africaine*) is pegged to the euro with an exchange rate of 655,957 FCFA for 1 euro.

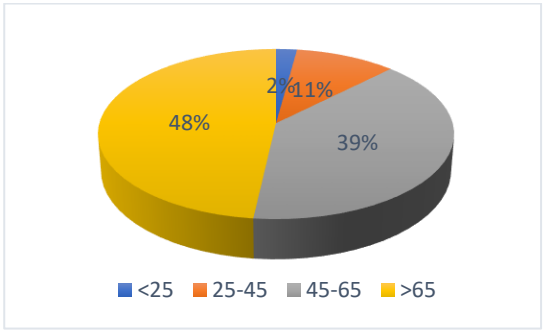
2. Profile of the onion farmer in Kayar area

1.1 Identification of the farmer

The vast majority of onion farmers in Kayar are men. They represent 77% of the total number of farmers in the area. Approximately half (48%) of the farmers are over 65 years old, and 11% are aged between 25 to 45 years.



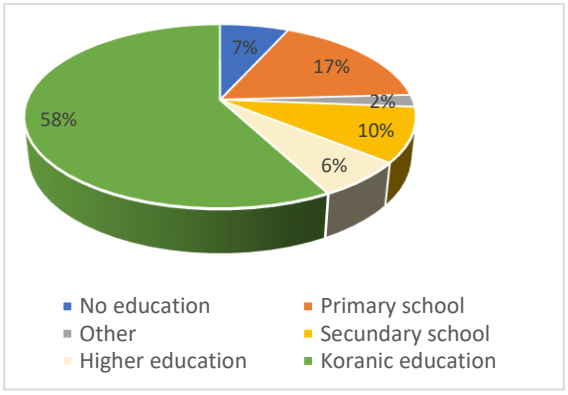
Distribution by gender of onion farmers in Kayar (%)



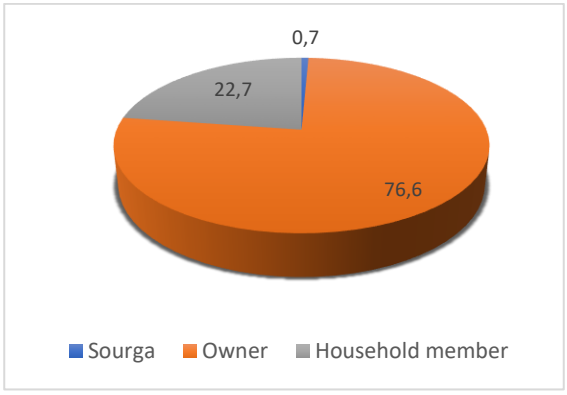
Distribution of farmers by age group (%)

The average size of a farmer household in Kayar is 10 persons. The average number of years of experience as a farmer in Kayar is 21 years. Many of them used to be a part-time farmer next to their main activity of fishing. Due to a strong decline in fish volumes over the last ten years, these part-time farmers became full time farmers growing among others potatoes, onions, carrots and cabbages.

Koranic education is predominant among the Kayar farmers (58%), followed by primary and secondary education with percentages of 17% and 10% respectively.



Distribution by level of education of respondents (%)



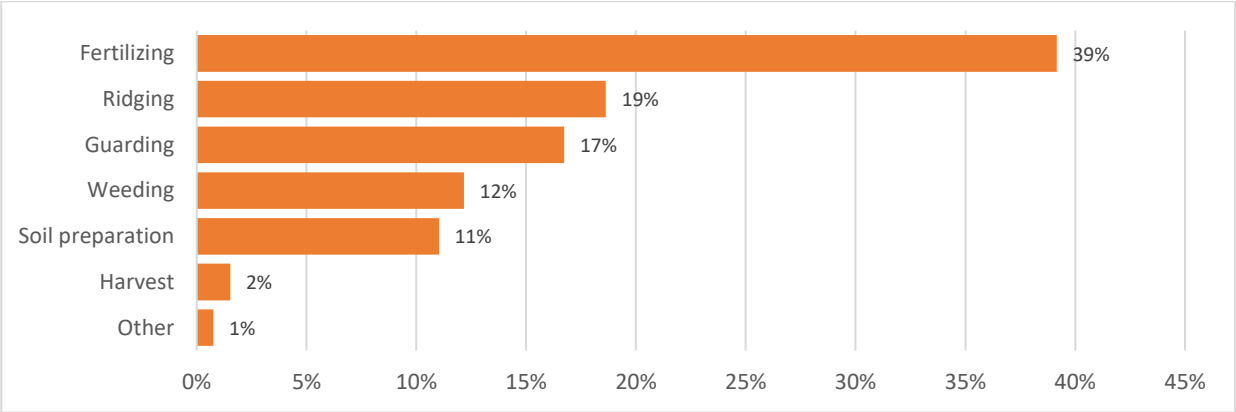
Distribution by position in farm household (%)

The majority of onion farmers in Kayar are farm owners (76.7%). Almost 23% are members of a farm household working for the owner of the farm plot. The Sourgas[2] represent less than 1%.

1.2 Employment

The relatively high land ownership among farmers in Kayar results in a high number of farmers using paid agricultural labour (93%). The main activity for which agricultural labour is hired is fertilizing the plot (39%) followed by ridging (19%). Also 17% of the farmers hire labourers to guard their fields against theft, but especially against cattle (goats) that want to eat the crops. Harvesting of the onions in Kayar is almost entirely done without the help of paid workers.

[2] Sourgas are seasonal agricultural workers whom are paid through a sharecropping arrangement. They are fed by the owner and paid through sharecropping.



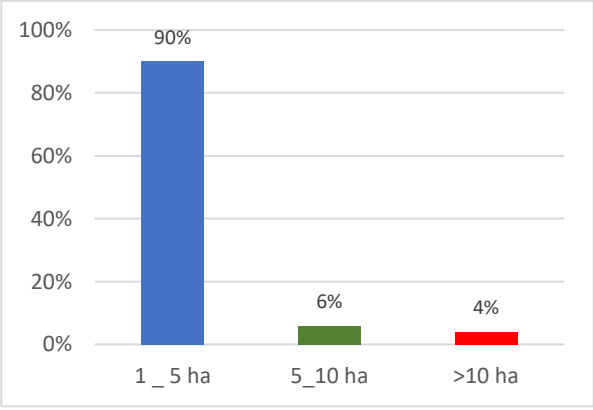
Distribution by type of hired worker (%)

The number of days that workers are hired is on average 36 days per year.

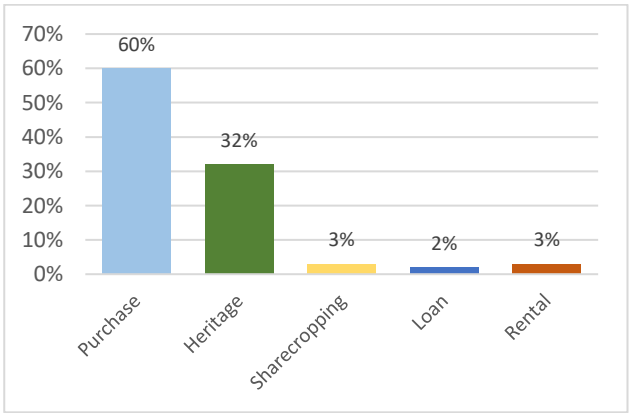
1.3 Production conditions

The average area owned by farmers in Kayar is 3.7 hectare, 90% of the farmers cultivate areas ranging from 1 to 5 hectare, 6% on 5 to 10 hectare, and only 4% has a plot size of more than 10 hectare. Of the total combined cultivated area by the respondents of the survey (approx. 1 000 hectares), 71% of the Kayar farmers cultivate onions on an area ranging from 1 to 20 hectares. Main reasons for growing onions is the profitability of this crop, strong yields, not difficult to cultivate, and increasing demand (good market opportunities). Most important types of onion cultivated in Kayar are Violet de Galmi and Orient. Goudamy, Mercedes and Texas early grano are much lesser to none cultivated in the area. The two main reasons for farmers to grow Violet de Galmi and Orient F1 (Ngagne mbaye) are that these varieties are better adapted to local circumstances (sandy soils, limited water, high temperatures) and that they gave higher yields compared to other onion varieties available on the local market.

Ninety percent of the farmers have only one harvest of onions per year. The result is that almost all farmers (97%) cultivate other crops, besides onions, as well. Potatoes and carrots are the most important crops.



Distribution of farms by surface area cultivated (%)

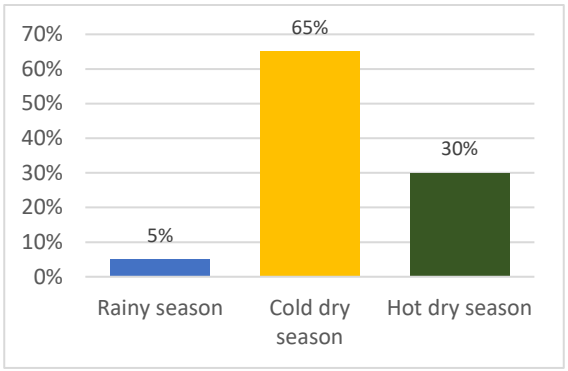


Distribution of farmers by access of land (%)

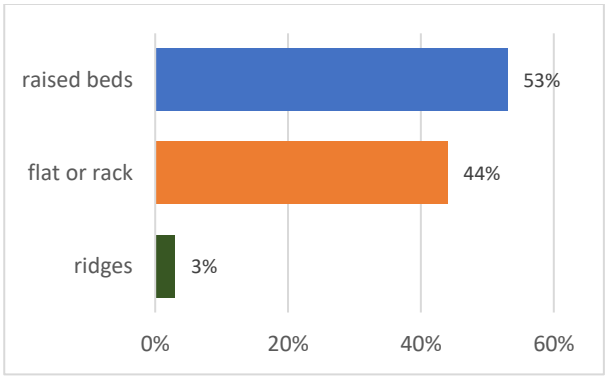
Land acquisition in the Kayar area takes various forms. Most of the farmers (60%) accessed their farm plot by purchase, 32% by inheritance. Sharecropping, land rental and acquiring land through a loan are relatively uncommon types of land acquisition in the Kayar area.

The main period for onion cultivation in the Kayar area is the cooler dry season that runs from mid-September to March the following year. During these months the average daily temperature (night and day) are lower compared to the hot dry season. This is also the period in which the import freeze on onions is lifted. When the local onions are harvested in March, the import freeze is in place to offer protection to

the local onions farmers when selling on the Senegalese market.[3] Two out of three farmers produce onions during this season. The second period of onion cultivation (30%) is during the hot dry season that runs from April to early July. Onion cultivation during the 'winter period' or low season (rainy season), that runs from early July until the beginning of September, is rare in the Kayar area.



Distribution of farmers by onion production season (%)



Distribution of farmers by cultivation technique (%)

More than 75% of the farmers begin their harvest when the leaves of the onion completely fall of, however other producers depend on the local market. That is to say, they move on to harvest as soon as market prices are at a good level.

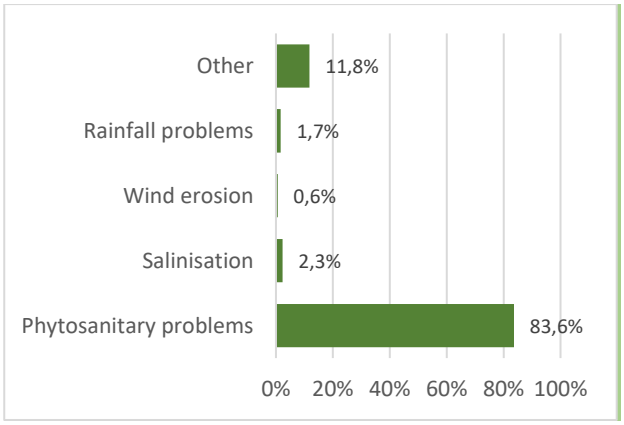
Onions are generally grown on raised beds to facilitate watering and movement within the plot (53%) or on flat soil (44%). Only 3% of the farmers use ridges to cultivate their onions.

The average yield of onion production in the Kayar area is 8.8 tonnes per hectare.

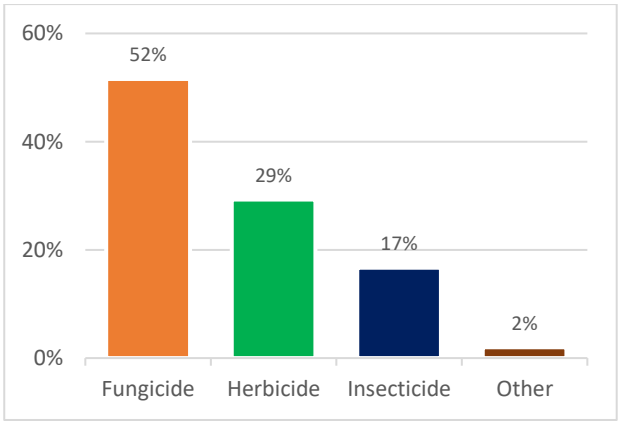
The main supporting organizations for farmers in the Kayar area are the National Agency for Agricultural and Rural Advice (ANCAR) and the Association of Market Gardeners of Kayar (APMK).

1.4 Constraints linked to production

Constraints linked to onion production are substantial in the Kayar area. No less than 87% of the farmers mentioned that they are confronted with problems in onion production.



Constraints in onion production (%)



Use of synthetic chemicals by farmers (%)

[3] The usual period for the import freeze on onions, especially from the Netherlands as the largest supplier, is from August until January

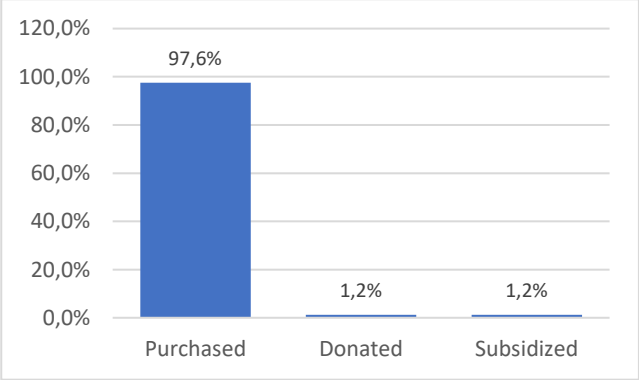
Four out of five farmers state that these constraints are directly linked to phytosanitary problems such as weeds, plant diseases (e.g. mildew), insects and bulb rot which occur at the ripening stage. The main symptoms of the plant diseases are stunted growth, burning, drying, and yellowing of the leaves.

The appearance of plant diseases is accidental, generally localized, but can cause enormous losses in quantity and quality of the crop. However, 74% of growers consider weeds to be the biggest concern in onion cultivation because their infestation is widespread and this problem becomes more thorny during the full growth phase. All farmers use synthetic chemicals such as fungicides[4] and herbicides[5] to counteract these hazards and they sometimes prove to be effective. The price of pesticides varies between 7,000 and 12,000 FCFA per litre. The purchase can be made several times in the product cycle. The identification of diseases in the plot is always done by own observation.

Salinity issues are less mentioned by farmers in the study area, although this depends also on the time of the year and their knowledge on recognizing and identifying salinity problems. The farmers don't use instruments to measure salinity in the water or soil. Only based on their own observation they identify this problem or not.

1.5 Seeds

Almost all farmers (97.6%) buy the necessary seeds with their own money. These seeds are primarily certified seeds from several seeds suppliers in the area.

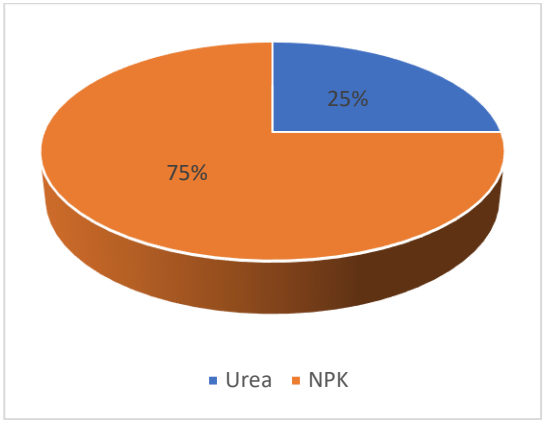


Distribution of farmers by mode of access to seeds (%)

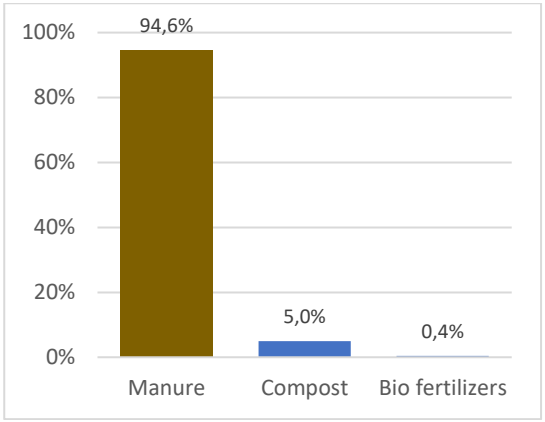
1.6 Fertilizers

Almost all farmers (98.9%) use chemical fertilizers for fertilization of their plot. Urea is most commonly used (75%). Only one-quarter of the farmers in Kayar use NPK. Quantities of chemical fertilizers used by the farmers vary from 3 to 20 bags per hectare.

[4] A (chemical) crop protection product that controls fungal diseases by inhibiting or killing the fungus that causes the disease.
[5] A herbicide is a chemical crop protection product used to control weeds.



Use of chemical fertilizers by farmers (%)



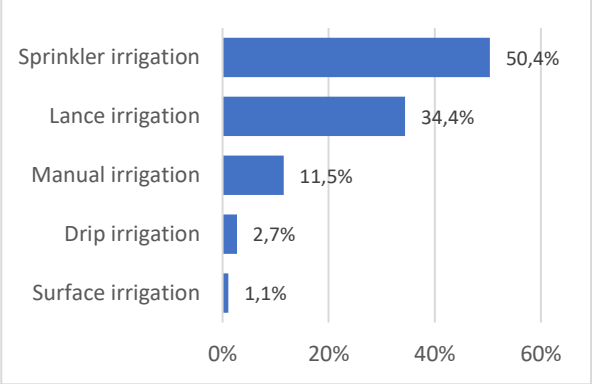
Use of organic fertilizers by farmers (%)

Organic fertilizers, such as livestock manure, are used by most producers in Kayar (92%), with quantities that can reach more than 1.5 tonnes per hectare or 300 bags of 50 kg. Of the farmers in the area 94.6% use manure to improve the soil of their plots; compost and biological fertilizers are little known to the farmers.

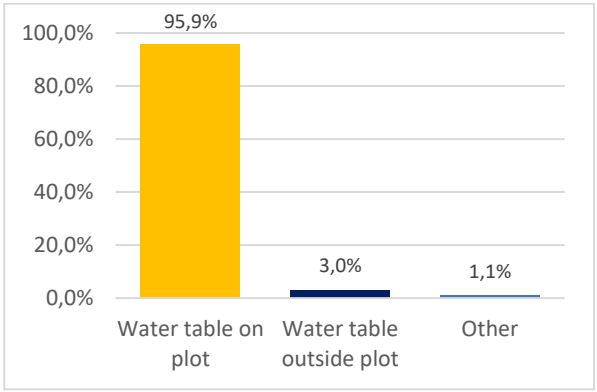
1.7 Irrigation and drainage means

Only 3% of the farmers in Kayar do not practice any type of water irrigation. Irrigation is mainly done by either a sprinkler or a lance. Drip irrigation in the Kayar area hardly exist. Less than 3% of the onion farmers use such an irrigation technique.

Of the farmers using water irrigation, 96% of them have wells or boreholes on their farm plot. The use of the municipal network for water irrigation is almost non-existent in the area.



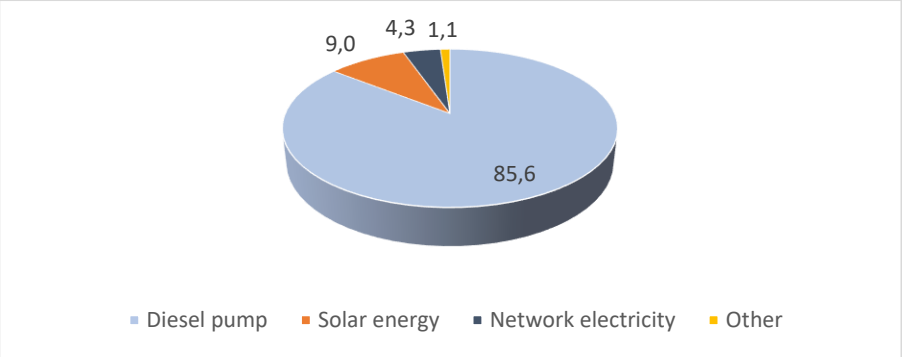
Distribution of farmers by type of irrigation (%)



Distribution of farmers by source of irrigation water (%)

Only 4% of producers do not have any type of energy source for their water irrigation. The farmers who have a water irrigation system use primarily diesel powered pumps as a mean of drainage. The use of solar

panels for water irrigation is not yet commonly used in the area (9%). Sometimes these are combined with the use of diesel pumps. The use of 100% electrical energy for irrigation is rare in the Kayar area.



Energy sources for irrigation (%)

1.8 Motorization

The vast majority of onion farmers in the Kayar area (87%) use a tractor in preparing their plot (ploughing). All other operations from sowing to harvesting are done mainly by hand. The level of motorization in cultivating the crops in Kayar is very low.

Type of equipment used	Soil preparation	Sowing	Crop maintenance	Harvesting
Manual	10%	95%	99%	98.9%
Use of horses	3%	4%	1%	0.4%
Motorized (tractor)	87%	1%	0%	0.7%
Total	**100%**	**100%**	**100%**	**100%**

3. Storage and packaging

Storage of production after harvest is a very rare or even non-existent practice in Kayar. 98% of the farmers in Kayar do not store their onions after harvesting. The small number of farmers who do this do not have real storage facilities or cold rooms for conservation. Some store the onions at home for a very short period of time, only a few days before selling. The onion is dried in the open air or on mulch for a few days; this practice is also very rare. In the surveyed area, the production is immediately sold after the harvest.

Producers tend to get rid of their crops in order to protect themselves from cases of theft and destruction of products by natural enemies (insects, birds, cattle). Furthermore, the majority of producers do not have the means to protect their crops against these hazards.

The producers do not have a special packaging system. The onions are filled directly into standard plastic bags of 25 and/or 40 kg. The average cost of packaging is 150 FCFA per bag. Onion processing does not exist in Kayar.

4. Production costs

During the survey in the study area, many farmers find it difficult to tell how much the costs for production are per hectare (unit of calculation). They know in general what their overall production costs are of their plot per seasonal campaign, but the surface area of these farm plots differs widely making it difficult to compare the answers of the respondents. In this chapter, therefore, the total average costs are mentioned and where possible calculated for the same unit, namely one hectare.

Fossil fuels
The fuel used to power the diesel pump for irrigation represents the heaviest burden for farmers in Kayar. The average costs per horticultural campaign is around 500 000 FCFA. The average price of a 20 litre container with gasoline is 19 000 FCFA.

Organic manure
As mentioned before, almost all farmers use organic manure. The total cost for organic manure can reach up to 350 000 FCFA. Producers use on average 300 bags of manure per hectare, with prices varying between 900 and 1 600 FCFA.

Chemical fertilizers
The average total cost of fertilizers for the production of onion is around 183 000 FCFA. This is primarily for the purchase of Urea.

Pesticides
Depending on the size of their plot, farmers pay on average 33 000 FCFA for the use of pesticides against phytosanitary problems.

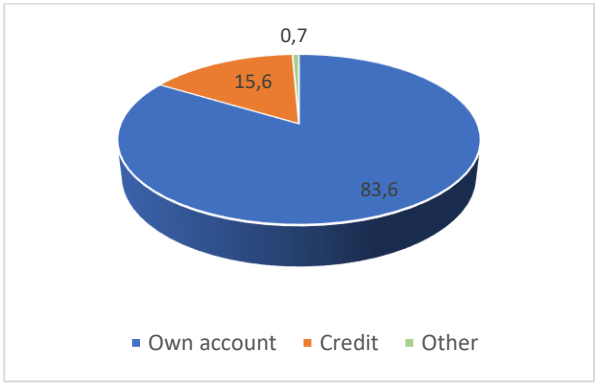
Seeds
The average price for one pot (500 gram) with certified seeds purchased by farmers on the local market is 31 000 FCFA. The number of pots used varies widely, namely between two to seven pots of seeds per hectare.

Labour
For those who do not sharecrop, the costs for hired labour varies between 40 000 FCFA to 60 000 FCFA per month for experienced Sourgas. For those who sharecrop, the harvest is sometimes divided by two or three and the Sourga takes part of the harvest as payment. However, the number of farmers who sharecrop is just around 3%.

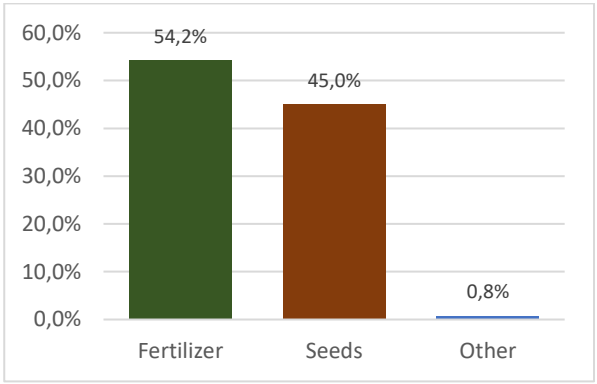
Packaging
The cost of packaging is on average 150 FCFA per bag (25 kg) of onions.

5. Financing of production

The vast majority of farmers in the Kayar area (83.6%) finance their onion production with their own funds. Only 16% use credit from a bank, despite the fact that 62% of the farmers have a bank account.



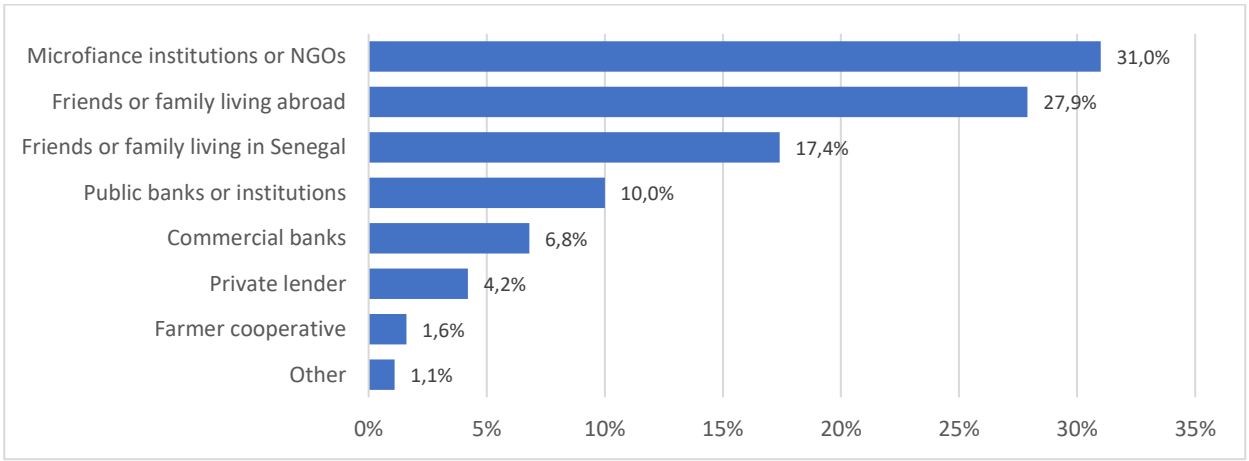
Distribution farmers by source of financing production (%)



Distribution of farmers by use of subsidies (%)

In addition to their own funds for financing production, 54% of the farmers receive subsidies from the Senegalese government. They use these subsidies for mainly buying fertilizers and/or seeds. The purchase of the agricultural equipment is primarily done in cash and not with a loan.

Whenever a farmer in Kayar needs a loan for financing (part of) its crop production, the primary sources are Microfinance institutions (MFIs) or NGOs, and family/friends living abroad (Diaspora). The MFIs and NGOs often provide soft (low interest rate) loans to farmers, making it more interesting compared to commercial bank loans. Not only the Diaspora is a main source of financial support to the farmer, also friends and family living in Senegal are more important than official lending institutions like commercial and public banks. All in all, the financial support system of farmers in the Kayar area is mainly based on informal known networks within and outside Senegal. The role of the cooperative as a provider of loans to its members is almost non-existent in Kayar.



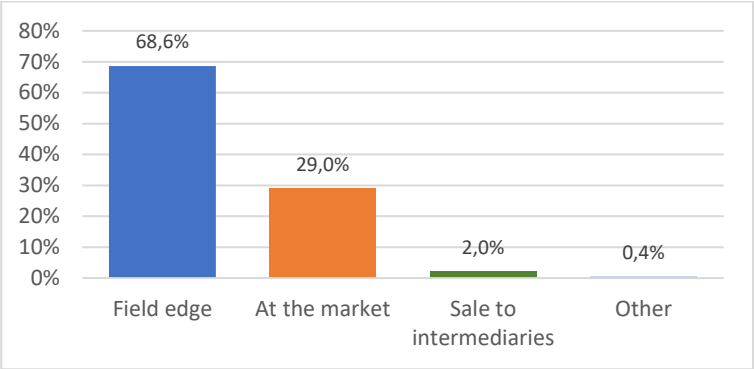
Main providers of loans to farmers (%)

The main reason why farmers in Kayar are reluctant to take up loans from a formal financial institution like a commercial bank are the high interest rates. These rates can vary from 18 to 24% on an annual basis. Banks ask such high interest rates as they perceive horticultural production as a high risk economic activity with farmers offering relatively low guaranties on repayment of the loan.

6. Marketing of onions

6.1 Points of sale

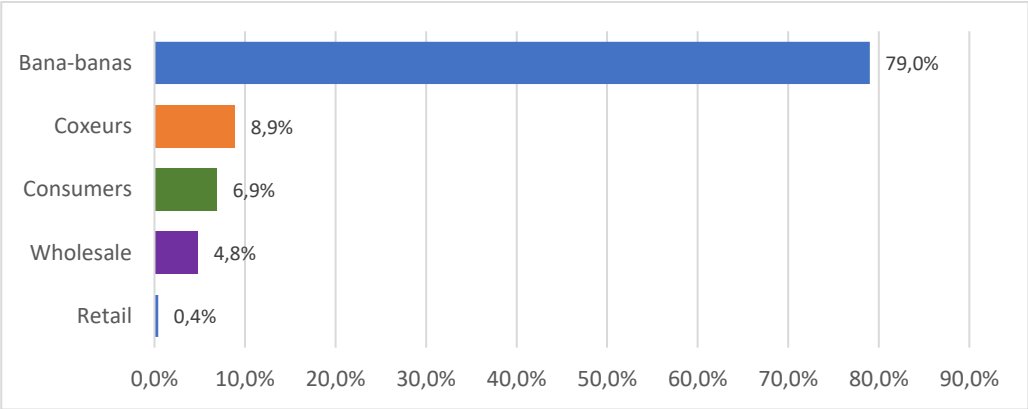
Of the total volumes of onions harvested by the farmers in the Kayar area, on average 92% is destined for sale. Self-consumption has on average a share of 7% and conservation only 1%. Onion processing is non-existent in the Kayar area.



Distribution of farmers by point of sale onions (%)

Approximately two out of three farmers (68.6%) sell the harvested onions at the edge of their field. Only 29% of the farmers go to the local market to sell their harvest. The main markets are in Kayar and in Keur Abdou Ndoye, a village located 5 km from Kayar. The average selling price for onions in the Kayar area is around 450 FCFA per kg during the campaign in 2023. Prices are obtained by the market or by negotiation between the buyer and the seller. There is no pre-established price regulation mechanism[6] or contract management for onions in place between sellers and buyers in Kayar. Onions are sold per kilogram and per bag of 25kg or 40kg.

Bana-banas are the farmers' best customers, 79% of the farmers in Kayar sell their onion harvest to them. They are followed by coxeurs and consumers with shares of 8.9% respectively 6.9%. Direct sales to wholesale and retail is very limited. The commissions paid to coxeurs for the sale of onions can reach up to 500 FCFA per bag.



Main buyers of onions from farmers Kayar (%)

Sales contracts are rare in the Kayar area or even non-existent. Farmers wait until the end of the harvest to sell their production through bana-banas and payments are mainly made upon sale (56%). For 44% of the

[6] To protect consumers against excessive market prices for onions, potatoes and carrots, the public entity 'Agence de Régulation des Marchés' (ARM) is allowed to intervene in the market to stabilise prices for these key horticultural crops. The ARM set then a minimum and maximum price for local producers, wholesale and retail.

farmers payments are made after the sale and waiting times for reimbursement by bana-banas can reach several months.

6.2 Marketing constraints

Of the farmers surveyed, all say that marketing is one of their major constraints. Farmers can face a real problem selling their production either because of poor prices circulating on the market or due to a lack of customers. This is mainly due to the saturation of the onion market. Something that pushes them to bequeath their production to the bana-banas who will first sell and return to reimburse them. However, this repayment period can reach several months or even a year or more. The study revealed that the total absence of cold rooms, sheds or structures specially dedicated to the conservation of onions accentuates marketing problems, because this condemns producers to sell off their production to avoid post-harvest losses. Prices are not fixed on the onion market, they can drop at any time and producers are forced to sell everything at once.

Thus, farmers propose several solutions to counter problems linked to marketing. For them the state should play its role as a market regulator in order to set prices on time, and ensure the establishment of cold storage or storage sheds in the Kayar area in order to extend the shelf life of the onion and facilitate its disposal over time.

7. Conclusions

The onion farmer in Kayar is in majority a male farmer, with little to no formal education, a household of 10 members, working on an average plot of less than 4 hectares and yields of just around 9 tonnes per hectare. He does primarily mono cropping, cultivating onions once a year during the dry season. After harvesting the onions they grow potatoes, carrots or cabbages. Crop rotation is non-existent in the Kayar area. The farmers in Kayar use hired labour for fertilizing the soil, ridging and safe guarding the plots against theft and animals which are wondering around in the area (a.o. goats). Mechanized agricultural equipment is mainly used during soil preparation, before sowing the seeds. All other activities for cultivating and harvesting the onions is done by hand.

Constraints linked to onion production are primarily phytosanitary problems such as weeds, plant diseases and insects. Farmers combat these problems by using the synthetic products fungicides and herbicides. Biological treatment is non-existent among the farmers in the Kayar area.

The average yield in onion production in the Kayar area is with 8.8 tonnes per hectare relatively low compared to a national average of 31 tonnes per hectares [7]. Varieties that are widely used in Kayar are Violet de Galmi and Orient. After harvesting, the onions are directly sold to traders (bana-banas are the main buyers) as there are no storage facilities available in the area. The result is depressed market prices offered by the buyers to the onion farmers.

Overall costs for the production of onions are dominated by the price of gasoline for operating the pumps for water irrigation. Solar powered water pumps are at the moment a rare sight in the Kayar area. Irrigation of plots is widespread among the farmers in the area, of which sprinkler irrigation and watering with a lance are the most commonly used system. Drip irrigation is hardly used at the moment in Kayar.

Financing crop cultivation is mainly from own sources or from the national and international (Diaspora) informal networks of family and friends. Loans from official banks are hard to obtain as they ask excessive interest rates that can run up to 24% per annum.

A final remark on the survey results:

When it comes to questions from the survey, many farmers find it difficult to answer these in detail. Especially questions regarding the collection of numerical data, such as the costs and financing of onion production. Most farmers don't register data that is directly linked to the cultivation of their crops. They rely heavily on transferring practical knowledge from generation to generation based on empirical observations.

[7] Source FAOSTAT

Questionnaire

Enquête producteurs Kayar 2023: chaine de valeur Oignon

Je m'appelle ……Je suis enquêteur dans le cadre de l'étude de fond du projet « Culture de l'oignon pour le futur », menée par le consortium néerlando-sénégalais composé de l'ENSA, MEYS, Médecins du sel, Delphy, ANCAR et APMK. Cette étude vise à créer une chaîne de valeur de l'oignon durable et résistante au climat aux Niayes, en renforçant les capacités des producteurs locaux d'oignons aux Niayes notamment, dans la commune de Kayar, et en augmentant leur part relative sur le marché national de l'oignon. Les données collectées sont strictement confidentielles et anonymes et seront utilisées par le consortium aux fins de cette étude et pour améliorer les pratiques agricoles. Votre participation est vivement bienvenue car les données contribueront à améliorer la résilience des producteurs face aux aléas climatiques.

Cette enquête dure en moyenne 20 minutes, voire un peu plus si nous sommes interrompus.

Consentez-vous à répondre à cette enquête ? 1= Oui ; 2= Non / _/

Date de l'enquête .....
N° de l'enquêté.....
Localisation/ village……

A] IDENTIFICATION

Informations générales sur l'exploitant

1. Sexe de l'enquêté ?

☐ Masculin ☐ Féminin

2. Age de l'enquêté ?

☐ < 25 ☐ 45 – 65
☐ 25 – 45 ☐ > 65

3. Quelle est votre position dans l'exploitation ?

☐ Chef d'exploitation (CE) ☐ Membre de la famille du CE ☐ Sourga

4. Combien de membres compte le ménage, détenteur de cette parcelle?

.....

5. Plus haut niveau d'éducation formelle atteint par l'enquêté ?

☐ Sans niveau ☐ Moyen ☐ Supérieur
☐ Elémentaire ☐ Secondaire ☐ Coranique

6. Depuis combien d'années êtes-vous agriculteur ?

.....

7. Combien de campagnes faites -vous par année ?

☐ Saison sèche froide ☐ Saison sèche chaude ☐ hivernage

8. Avez-vous des ouvriers (Permanents / temporaires) rémunérés qui travaillent sur votre parcelle Agricole ?

☐ Oui
☐ Non

Si 'Oui', quel est le nombre moyen de jours travaillés par an par la population active ?

.....

9. Pour quel type de travaux engagez-vous des ouvriers (plusieurs réponses possibles) ?

- ☐ Gardiennage
- ☐ Billonage
- ☐ Fertilisation
- ☐ Préparation du sol et plantation
- ☐ Désherbage
- ☐ Récolte
- ☐ Activités post-récolte
- ☐ Autres (à préciser) :

.....

10. Votre main d'œuvre est composée de :

- ☐ Femmes
- ☐ Hommes
- ☐ Enfants

11. Etes -vous membre de APMK ?

- ☐ Oui
- ☐ Non

Si 'Oui' Pourquoi ?

.....

Patrimoine foncier

12. Quelle est la taille de votre terrain agricole (en hectare) ?

.....

13. Propriété foncière des terres agricoles par type d'enregistrement ?

- ☐ Propriété / Achat
- ☐ Le metayage
- ☐ Location
- ☐ Emprunté
- ☐ Terrain occupé gratuitement
- ☐ Copropriété: Héritage
- ☐ Autre (préciser):

.....

14. Quelles sont les structures d'encadrement qui vous viennent en appui technique pour la culture d'oignon ?

.....

B] CONDITIONS DE PRODUCTION

Oignon au niveau parcellaire

15. Pourquoi cultivez-vous des oignons ?

.....

16. A quelle échelle produisez- vous de l'oignon ?

☐ Grande échelle (> 20 ha.) ☐ Moyenne échelle (1-20 ha.) ☐ Petite échelle (< 1 ha.)

17. Cultivez-vous d'autres cultures que l'oignon ?

☐ Oui
☐ Non

Si 'Oui', lesquelles (plusieurs réponses possibles) ?

☐ Tomate ☐ Patate douce ☐ Gombo
☐ Pomme de terre ☐ Carotte ☐ Autre (préciser):

.....

18. Quelle est la meilleure variété d'oignon que vous produisez ?

☐ Violet de Galmi ☐ Orient
☐ Texas early grano ☐ Goudamy
☐ Red passion ☐ Autres (à préciser):
☐ Mercedes

.....

19. Motivation par rapport au choix de cette (ces) variété(s) (plusieurs réponses possibles) ?

☐ Ne sait pas ☐ Variété la plus couramment utilisée
☐ Plus adaptée aux conditions locales ☐ Commercialisation plus facile
☐ Rendements meilleurs ☐ Autres (à préciser) :
☐ Plus disponible

.....

20. D'où proviennent vos semences d'oignons ?

☐ Achat ☐ Dons
☐ Semences subventionnées ☐ Autoproduction

21. Quel type de semence utilisez-vous ?

☐ Graines ☐ Des semences certifiées
☐ Petits bulbes secs des cultures antérieures ☐ Autres (à préciser) :

.....

22. Sur une échelle de 1 (très mauvais) à 5 (très bon), quelle est selon vous la qualité des semences ?

.....

23. A quel stade récoltez-vous les oignons ?

☐ Feuilles encore dressées ☐ Feuilles complétement tombées
☐ Feuilles à demi tombées

24. Sur une échelle de 1 (pas du tout d'accord) à 5 (tout à fait d'accord), les critères de qualité suivants sont importants pour vous lors du choix du bulbe d'oignon :

Taille ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Fermeté	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Tunique	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Couleur	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Sol, irrigation, moyens d'exhaure et contraintes majeures

25. Sur quel type de sol cultivez vous l'oignon ?

.....

26. Comment cultivez vous l'oignon ?

☐ A plat ou sur casier ☐ Sur billon ☐ Sur planche

Pourquoi ?

.....

27. Pratiquez-vous l'irrigation ?

☐ Oui
☐ Non

Si 'Oui', quel type d'irrigation utilisez-vous (plusieurs réponses possibles) ?

☐ Irrigation manuelle
☐ Irrigation à la lance
☐ Irrigation de surface
☐ Irrigation par aspersion
☐ Goutte à goutte

28. Quelles sont les principales sources d'eau utilisées pour la production Agricole (plusieurs réponses possibles) ?

☐ Nappe sur l'exploitation (puits, pompage ,forage)
☐ Nappe hors exploitation (puits, pompage , forage)
☐ Céanes
☐ Mbana
☐ Réseau municipal ou autre réseau (robinet)
☐ Eaux usées retraitées

29. Utilisez-vous des sources d'énergie pour la production agricole ?

☐ Oui
☐ Non

Si 'Oui', quel type de source d'énergie utilisez-vous (plusieurs réponses possibles) ?

☐ Energie éolienne
☐ Combustibles pétroliers
☐ Electricité du réseau
☐ Energie solaire
☐ Force hydraulique
☐ Biogaz ou méthane

30. Avez-vous des contraintes dans la production oignons ?

☐ Oui
☐ Non

Si 'Oui' quelles sont les principales contraintes (plusieurs réponses possibles) ?

☐ Problèmes Phytosanitaires
☐ Problèmes pluviométriques
☐ Oiseaux granivores
☐ Stagnation d'eau
☐ Salinisation
☐ Erosion éolienne
☐ Périls acridiens
☐ Autre (préciser):

.....

31. Quel matériel agricole utilisez-vous ?

Type de matériel utilisé	Préparation du sol	Semis	Entretien des cultures	Récoltes
Manuel				
Attelé				
Motorisé				

32. Combien de récolte d'oignon faites-vous chaque année ?

☐ Une récolte par an ☐ Deux récoltes par an ☐ Production continue

Pourquoi ?

.....

33. Quel a été le rendement de la production d'oignons en tonnes par hectare lors de la dernière campagne ?

.....

Problèmes phytosanitaires de la culture d'oignon et solutions

34. Au niveau de l'exploitation, quels sont les problèmes phytosanitaires problèmes qui vous préoccupent le plus pour l'oignon ?

☐ Les mauvaises herbes ☐ Les maladies

☐ Les insectes ravageurs ☐ Autres (à préciser) :

.....

35. A quel moment le problème est-il le plus épineux ?

☐ Mise en place de la culture, ☐ Début de croissance ☐ Récolte

☐ Levée ☐ Pleine croissance

☐ Maturité

36. Quelles sont les maladies les plus fréquentes dans vos parcelles d'oignon ?

Nom	Symptôme	Traitement et période

37. Quels sont les autres ennemis des cultures que vous avez identifiés sur les parcelles d'oignon ?

.....

38. Quels moyens possédez-vous pour les identifier ?

.....

39. Pour chaque ennemi des cultures, veuillez noter si ses manifestations sont :

☐ Accidentelles si oui, à quelque cause l'agriculteur rattache-t-il leur apparition ?

.....
.....

☐ Cycliques (annuelles, pluriannuelles). Pourquoi ?

.....

40. Les problèmes sont-ils identiques chez les voisins ?
    - ☐ Oui
    - ☐ Non
    - ☐ Je ne sais pas

41. Si vous n'intervenez pas, quel type de dommages à vos cultures craignez-vous le plus ?

.....

42. Est-ce une perte en quantité, en qualité ?
    - ☐ Quantité
    - ☐ Qualité
    - ☐ Les deux

Comment se présentent les dégâts ?
- ☐ Localisés
- ☐ Généralisé

43. Utilisez-vous des engrais organiques ?
    - ☐ Oui
    - ☐ Non

Si 'Oui', quel type d'engrais organique utilisez-vous (plusieurs réponses possibles) ?
- ☐ Fumier
- ☐ Compost
- ☐ Paillis
- ☐ Fertilisant bio

Précisez les quantités à l'hectare (en kg) ?

.....

44. Utilisez-vous des engrais minéraux ?
    - ☐ Oui
    - ☐ Non

Si 'Oui', quel type d'engrais minéral utilisez-vous (plusieurs réponses possibles) ?
- ☐ NPK
- ☐ Urée
- ☐ Phosphates

45. Quelle quantité d'engrais minéral utilisez-vous en kg par hectare ?

.....

46. Pour protéger vos cultures des mauvaises herbes, des rongeurs, des insectes ou des champignons, quel type de produits phytosanitaires utilisez-vous (plusieurs réponses possibles) ?
- ☐ Fongicide
- ☐ Herbicide
- ☐ Insecticide
- ☐ Raticide
- ☐ Bactéricide
- ☐ Nématicides
- ☐ Extrait de feuille
- ☐ Autre (préciser):

.....

47. Etes-vous satisfait des ces produits ?
    - ☐ Oui
    - ☐ Non

Si 'Non' : pourquoi pas :

.....

<u>Stockage de l'oignon</u>

48. L'oignon est-il stocké après la récolte ?
    - ☐ Oui
    - ☐ Non

Si la réponse est « Oui », il faut répondre à la question suivante. Si « Non », continuez avec la question 61

49. Dans quelle commune est-il localisé dans la zone des Niayes ?

.....

50. Le stockage est-il individuelle ou collective ?

- ☐ Individuelle publics
- ☐ Individuelle privés
- ☐ Collective privés
- ☐ Collective publics
- ☐ Autre (à préciser) :

.....

51. Veuillez décrire l'entrepôt (capacité, matériaux de construction de l'entrepôt /ventilation/isolation) :

capacité (en tonnes) : .....
matériaux de construction de l'entrepôt :.....
ventilation :.....
isolation :.....

52. Quel type de conservation faites-vous pour l'oignon (plusieurs réponses possibles) ?

- ☐ La conservation par le froid
- ☐ La conservation par séchage
- ☐ Ajouts d'additifs

Pourquoi ?.....

53. De quelle manière l'oignon est -il généralement stocké ?

- ☐ En vrac
- ☐ En sacs
- ☐ Tressés en chapelet
- ☐ Dans des caisses
- ☐ Autre (à préciser) :

.....

54. Quelle est la période habituelle (nom(s) du ou des mois) pendant laquelle vous conservez les oignons ?

.....

55. Quelle est la durée de conservation optimale de votre oignon (en nombre de semaines) ?

.....

56. Quelles sont les raisons qui vous poussent à conserver l'oignon ?

- ☐ Pourrissement
- ☐ La saturation du marché
- ☐ La nature sensible et très périssable du produit
- ☐ Saturation de l'offre
- ☐ Recherche de prix plus rémunérateurs
- ☐ Autre (à préciser) :

.....

57. Est-ce que la conservation de l'oignon a une fois engendrée des pertes chez vous ?

- ☐ Oui
- ☐ Non

Si 'Oui', est-il possible de l'estimer ?

- ☐ Moins de 10%
- ☐ 30%
- ☐ 50 %
- ☐ 75%
- ☐ Autre (à préciser) :

.....

La cause de cette perte c'est par rapport à quoi (plusieurs réponses possibles) ?

- ☐ Produit
- ☐ Magasins
- ☐ Méconnaissance de techniques de conservation*

☐ Manque d'équipements de conservation ☐ Autre (à préciser)

.....

58. Est-ce qu'il existe un système de formation des producteurs sur les techniques de conservation et de conditionnement de ces produits ?

☐ Oui
☐ Non
☐ Je ne sais pas

59. Quels sont les frais de stockage ?

Quantité stockée	Durée de stockage	Frais de stockage

60. Comment transportez- vous votre récolte jusqu'aux lieux de conservation (plusieurs réponses possibles) ?

☐ Moyens personnels ☐ Camions
☐ Charrettes ☐ Autre (à préciser) :
☐ Véhicules

.....

Conditionnement et emballage de l'oignon

61. Avez-vous mis en place un système de conditionnement ?

☐ Oui
☐ Non

Si 'Oui', quelles sont les techniques utilisées pour le conditionnement de l'oignon ?

.....

62. Quels sont les types d'emballages utilisés pour l'oignon (plusieurs réponses possibles) ?

☐ Sac en plastique ☐ Carton
☐ Caisse ☐ Sac en mailles serrées

63. Quelle est la capacité des contenants (en kg) ?

.....

Conservation de l'oignon

64. Séchez-vous les oignons avant de les conserver ?

☐ Oui
☐ Non

Si la réponse est « Oui », il faut répondre à la question suivante. Si « Non », continuez avec la question 68.

65. Quels sont les matériels et équipements de conservation que vous utilisez ?

.....

66. Combien de temps (en jours) laissez-vous sécher les oignons avant de les stocker ou de les vendre ?

.....

67. Faites-vous de la transformation de l'oignon ?

- ☐ Oui
- ☐ Non

Si 'Oui', quel(s) type(s) de transformation faites-vous pour l'oignon (plusieurs réponses possibles) ?

- ☐ Oignon poudre
- ☐ Oignon surgelé
- ☐ Oignon déshydraté
- ☐ Conserves

Ennemis des denrées stockées

68. A quels ennemis de denrées stockées faites-vous face (plusieurs réponses possibles) ?

- ☐ Insectes
- ☐ Parasites
- ☐ Champignons
- ☐ Autres (à préciser) :

.....

69. Avez-vous la possibilité de protéger vos stocks contre ces ennemis ?

.....

70. Faites-vous des traitements en amonts ou en aval de la conservation pour lutter contre ces ennemies des stocks ?

- ☐ Amont
- ☐ Aval
- ☐ Les deux

COÛT DE PRODUCTION

71. Combien de pots de semence avez-vous semé et sur quelle superficie?

.....

72. Quel est le prix moyen du pot de semence ?

.....

73. Quels sont les frais sur l'utilisation de pesticides ?

.....

74. Coûts des engrais ?

Engrais	Quantité	Prix unitaire	Coût total
Fumure organique			
Fumure minérale			

75. Quels sont les coûts associés à l'irrigation y compris coût énergétique ?

.....

76. Quelle est la part de la production d'oignons (en pourcentage) réservée à :

- ☐ Autoconsommation : …… (%)
- ☐ Conservation : …… (%)
- ☐ Commercialisation : …… (%)
- ☐ Transformation : …… (%)

77. Conditionnement de la récolte oignon jusqu'au marché du village ?

Quantité conditionnée	Charge par sac de .....kg	Total charges

78. Quels sont les coûts de main d'œuvre (FCFA/hectare) ?

.....

FINANCER LA PRODUCTION AGRICOLE

79. Comment financez-vous vos activités de production ?

☐ Fonds propres ☐ Crédit ☐ Autre (à préciser) :

.....

80. Recevez-vous des subventions agricoles du gouvernement (plusieurs réponses possibles) ?

☐ Oui

☐ Non

Si 'Oui', à quoi sert-on la subvention ?

☐ Semences ☐ Matériel agricole

☐ Engrais ☐ Autres (à préciser):

☐ Aliment bétail

.....

81. Disposez-vous d'un compte dans une institution financière ?

☐ Oui

☐ Non

Si 'Oui', depuis quand ?

.....

82. Acheter du matériel agricole contre de l'argent ou un prêt ?

☐ Comptant ☐ Prêt

83. Si avec prêt, pourquoi?

.....

84. Qui est le principal fournisseur de prêts (plusieurs réponses possibles) ?

☐ Amis ou familles vivant à l'étranger ☐ Amis ou Familles vivant dans le pays

☐ Banques commerciales ou compagnies assurances ☐ Banques Publiques ou autres institutions Gouvernementales

☐ Coopératives de Productions ☐ Institutions de microfinancement ou ONG

☐ Prêteur privé ☐ Autre (préciser):

.....

85. Quelles sont les conditions de remboursement du prêt par :

Durée :

.....

Taux d'intérêt :

.....

Type :

.....

STRATEGIES DE MISE EN MARCHE

86. Comment s'effectue la vente vos oignons (plusieurs réponses possibles) ?

- ☐ Bord champs
- ☐ Au marché
- ☐ Vente aux intermédiaires
- ☐ Autres (à spécifier) :

.....

87. A qui sont vendus vos oignons ?

- ☐ Consommateurs
- ☐ Banabanas
- ☐ Coxeurs
- ☐ Grossistes
- ☐ Détaillants

88. En cas de traite avec les coxeurs, Y-a-t-il une commission payée ?

- ☐ Oui
- ☐ Non

Si oui, à combien s'élève la commission en FCFA ?

.....

89. Comment vendez-vous vos oignons ?

- ☐ Par tas
- ☐ Par kg
- ☐ Par sac de 25kg
- ☐ Bord champs
- ☐ Autres (à préciser):

.....

Comment les prix des produits sont fixés?

- ☐ Négociation
- ☐ Par le marché
- ☐ Autres (à préciser) :

.....

90. Quels ont été les prix de vente de vos oignons lors de la campagne 2021-2022 ?

Récoltes	Période	Quantité (tonnes) vendue	Prix (FCFA/kg)	Quantité (tonnes) non vendue
Récolte 1				
Récolte 2				
Récolte …..				

91. A quel moment êtes-vous payés ?

- ☐ A la vente
- ☐ Après la vente (à préciser):

.....

92. Existent-t-ils des contrats de vente ?

- ☐ Oui
- ☐ Non

Si 'Oui', de quel type ?

.....

93. Où et comment obtenez-vous l'information sur les prix ?

.....

94. Dans quel marché vendez-vous votre oignons ?

- ☐ Kayar
- ☐ Keur Abdou Ndoye
- ☐ Thiès
- ☐ Mboro
- ☐ Dakar
- ☐ Autres (à préciser) :

CONTRAINTES A LA COMMERCIALISATION

95. Quelles sont les difficultés que vous rencontrez dans la commercialisation de l'oignon ?

.....

96. Quelles sont les solutions à apporter pour lever ses contraintes ?

.....

Dernière question, souhaiteriez-vous, en tant qu'agriculteur, participer à ce projet de 3 ans sur l'oignon, au cours duquel le consortium néerlando-sénégalais soutient les agriculteurs participants de la région de Kayar dans l'amélioration des rendements des cultures, de la qualité des produits, des techniques de culture, du stockage et de la commercialisation, entre autres, des formations pratiques et des conseils sur place ?

- ☐ Oui
- ☐ Non

Si '(Oui), Nom de l'enquêté :

.....

Merci d'avoir participé à cette enquête !