Appendix 1. Exemplary interview guides for farmers and experts

Exemplary interview guide for farmers

A) General information about the farm and grassland management:

1) Can you tell me more about your position and your task at (farm name)?

    a. How long have you been working here? Is it a family business, a limited liability company, or another type of business?

    b. Do you have an agricultural education, if so what kind (university degree, apprenticeship)?

    c. When did you first come into contact with agriculture?

2. How many hectares do you cultivate in total? How much of it is grassland?

3. Can you describe your current grassland management in more detail?

    a. What is your grassland used for? Is it grazed or mowed?

        i. When mowed: Is the fodder for your animals or is the fodder sold?

        ii. If sold: as fodder, biomass or another purpose?

        iii. If grazed: animals per ha? How often and for how long are animals on the pasture?

        iv. Other: Is fertilization used? How often? Is the species composition changed by sowing, pesticides or biological pest control? Is it permanent grassland or rotational farming?

4. How has grassland management changed over the years?

5. Do you remember how grassland was managed before your time?

6. How have the areas changed (i.e. forest to grassland or vice versa, grassland to arable land, decrease in grassland)?

7. Do you know who manages/owns the forest? Do you have contact?

    a. If so, could you forward the contact to me?

B) Impact of management on biodiversity

1. Which plant species do you observe on the grassland?

2. Which animal species do you observe on the grassland?

    a. Are there species that are only found in the transition zone between grassland and forest?

    b. Which species have their main habitat in forests?

    c. Why do the species from the forest also come to the grassland?

3. Have you observed a change (loss or presence of new species) in the quantity or presence of different species in recent years?

    a. If so, which ones?

    b. What could be the reasons for the changes? Where do new species come from?

4. Are there species that benefit the management of your grassland or provide different services to you?

C) Influence of forest/landscape complexity on soil fertility, water balance, temperature regulation and wind protection, which ultimately affect forage yield and quality.

Increased biodiversity through increased landscape complexity can provide various services.

1. What services does the forest / a complex landscape provide to you?

2. Have these services changed in recent years?

    a. If so, what might be the reason for this?

3. How important is landscape complexity for the grassland yield?

    a. How would you say a landscape with a lot of complexity differs from a more homogeneous landscape, especially concerning production and biodiversity?

4. Would you classify the adjacent forest, in general, more as an advantage or disadvantage for biodiversity and yield in grassland?

    a. If there are advantages: Do you include the advantages into your grassland management? If so, how?

D) Impact of ecosystem services on management decisions

1. Has the yield of your grassland areas changed or fluctuated significantly in recent years?

2. What can be the reasons for these fluctuations? (i.e. drought, pest infestation, soil degradation, low forage quality)

3. How do you stabilize their performance/ yield when the natural processes are no longer reliable?

    a. Are you already thinking about the future? / How long-term are you planning when applying management decisions?

4. Can the above-mentioned services keep the yield stable in the long run?

5. What would happen if the small forest plots disappeared from the landscape?

E) Impact of cooperation and knowledge exchange on landscape complexity

1 What difficulties arise in the attempt to make agriculture in North-East Brandenburg more ecological?

2. Do you think it is feasible to make agriculture more ecological without sacrificing yield?

    a. What basic conditions must be in place?

3. How important is your knowledge of the elements of the landscape and their interaction for the current management of your grassland?

    a. Where do you get your knowledge from? (literature, experience, cooperation)

    b. Would you say your knowledge would have to gain importance to perform measures that enhance landscape complexity?

5. Would you call an increase and/or the preservation of landscape complexity a meaningful measure for the increase of the nature protection potential with constant yield (i.e. sowing of disappeared old varieties, increase of different landscape types on the same area (increase grassland forest borders), adding structural elements (trees, bushes)

    a. What has prevented you from implementing it so far?

6. Is there currently cooperation between you and neighbouring land users? (i.e. agreements on timing, intensity measures, land-use change, species composition, adherence to limits) Within the framework of a support program or independent of it?

    a. Do you see cooperation with other land users as a possible advantage to increase landscape complexity? In what way? (i.e. exchange of knowledge)

    b. How would cooperation to manage the border between grassland and forest ideally look like? What does a particularly bad example of such cooperation look like to you?

Q) Do you have anything else to say about one of the topics that was not covered by our questions?

Exemplary interview guide for experts

A) General information about the occupation and the region

1. Can you tell me more about your position and your responsibilities at (name of institution)?

    a. How long have you been working here in the region?

    b. How does your work with the farmers look like?

    c. How are the information events you offer perceived by the farmers?

2. What are the characteristics of agriculture in North-East Brandenburg?

    a. What factors characterize the management of grassland in North-East Brandenburg?

    b. How does the management of grassland in North-East Brandenburg differ from the rest of Germany?

3. What influence did historical events have on agriculture in North-East Brandenburg?

    a. How has the way grassland is managed changed over the years?

b. How have the areas changed (i.e. grassland to forest or vice versa, grassland to field, decrease in grassland)?

B) Influence of management on biodiversity

1. Which animal and plant species are characteristic for the grassland in North-East Brandenburg?

    a. Are there species that are only found in transition zones (forest / grassland, grassland / arable, arable / forest)?

    b. Which species have their main habitat in forests?

    c. Why do these species migrate from forests to grassland?

2. Have you observed a change (loss or presence of new species) in the quantity or presence of different species in recent years?

    a. If so, which ones?

    b. What could be the reasons for the changes? Where do new species come from?

3. Are there species that provide advantages in the management of grassland?

C) Influence of forest/landscape complexity on ecosystem services (i.e. soil fertility, water balance regulation, temperature regulation and wind protection) which ultimately affect forage yield and quality.

Increased biodiversity through increased landscape complexity can provide a variety of services.

1. What ecosystem services does the forest / a complex landscape provide for the farmer?

2. Have these services changed in recent years?

    a. If so, what could be the reason for this?

3. How important is landscape complexity for the yield?

a. How would you say a landscape with a lot of complexity differs from a more homogeneous landscape, especially concerning production and biodiversity?

4. Would you classify the adjacent forest, in general, more as an advantage or disadvantage for biodiversity and yield in grassland?

    a. What would be the best way to integrate forest benefits into grassland management?

D) Impact of ecosystem services on management decisions

1. Has the yield of farmers on their grassland changed or fluctuated significantly in recent years? If so, why?

2. How can performance/yield be stabilized in the long run if natural processes are no longer reliable?

3. What would happen if the small forest plots disappeared from the landscape?

a. Can you see a difference between grassland bordering on forest and grassland without forest borders?

E) Impact of cooperation and knowledge exchange on landscape complexity

1 What difficulties arise in the attempt to make agriculture in the North-East Brandenburg more ecological?

2. Do you think it is feasible to make agriculture more ecological without sacrificing yield?

a. What framework conditions must be in place to achieve this?

3. How important is knowledge of the elements of the landscape and their interaction for the current management of grassland in North-East Brandenburg?

a. Would you say that knowledge/knowledge exchange would have to gain in importance to implement an increase in landscape complexity?

4. Are you aware of current examples of cooperation between farmers in the North-East Brandenburg?

a. Do you see cooperation with other land users as a possible advantage to increase the complexity of the landscape? In what way? (exchange of knowledge?)

b. How would cooperation to manage the border between grassland and forest ideally look like? What does a particularly bad example of such cooperation look like to you?

Q) Do you have anything else to say about one of the topics that were not covered by our questions?