

Activity 1.7 - Identification of Response Strategy Potential

**D1.7.2 – Pilot Actions
and the site-specific
potential for SMB
application**

Deliverable 1.7.2 – Pilot Actions and the site-specific potential for SMB application

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1. Introduction

The benefits achieved through the application of the Strategic Measure Bundles (SMB) in agriculture were described in detail in “D1.7.1 – Technical Description of the Strategic Measure Bundles (SMB)” (Koeck et al. 2026). It was possible to show that through SMB application mitigation of erosion processes on agricultural fields - triggered through strong winds or strong precipitation events – can be achieved. Additionally, SMB application leads to improved hydrologic conditions within agricultural areas and enhances biodiversity on both flora and fauna level.

Hence it was shown that SMB application in agriculture can form an efficient response strategy option to confront and mitigate drought conditions and erosion processes, which both form a strong challenge for agriculture under current climate change conditions.

With D.1.7.2 the next step in project Activity 1.7 deals with the “Identification of the site-specific potential for application of the Strategic Measure Bundles (SMB)” in each Pilot Area (PA) of the TRANSFER Danube project partners. For this task, the analysis of the PAs regarding their potential for SMB application is carried out (SMB: A - Wind-breaker forest belts; B - Buffer-strip forest vegetation along streams; C - Forest plantations). The elaboration of indicators for assessing suitability of response strategies is central part of this process. The indicators are basic for the delineation of tree and shrub species recommended for each PA, which will be provided in “Deliverable - D.1.7.3 Climate resilient tree and shrub species to be used for SMB”.

For this task all project partners (PPs) were asked to fill in a questionnaire. All PPs with Pilot Areas fulfilled this task. The overview and interpretation of this working step is presented in this “Deliverable 1.7.2. – Pilot Actions and the site-specific potential for SMB application”.

2. Methods

For estimating the potential for SMB application in the Pilot Areas of TRANSFER Danube it was necessary to define the most important indicators, which specify the suitability of tree and shrub species used in SMB establishment. Here is given an overview about the indicators, which were demanded as PA-information base from the project partners.

Each Pilot Area (PA) is described with data provided and organized in form of a table (see Tab. 1). Some project partners have one PA, others up to three PA.

The first group of indicators provides the general PA information. As general info both project partner number and name and also the name of the PA are given. One important indicator is (A) the elevation above sea-level of a PA, provided as mean or as range over the whole area. The (B) coordinates of the PA also describe the geographic location of the site. The type of landscape (C) and (D) the extension of the PA completes the *geographic information pool*. (Tab. 1).

The *second group of indicators* describes the growth conditions of trees and shrubs being used in SMB in terms of *geology and soil types*. These indicators are (E) the geological substrate given in each PA. Also of specific interest are soil types (F) and soil depth (G) within each PA (Tab. 1). Agricultural areas in general are situated in regions, where the soil conditions tend to be better than e.g. in surrounding forest areas. Humans have all time selected areas with the relatively best soil conditions for the cultivation of their vital crops. Also, for SMB application soil data are crucial. For being comparable, the WRB (2015) (World Reference Base for Soils, FAO-Rome) classification of soil types was used for the description of the soils in each PA.

As *meteorological parameters* (H) the annual mean temperature and (I) the yearly sum of precipitation as mean over the period 2000-2020 are provided as PA information. Those values were also being provided in the project Activities 1.4 and 1.5 by all project partners with Pilot Areas (PA) (Tab. 1) and hence were derived from the data pool of these Activities. For estimating tree species and shrub species suitability in each PA, both of these meteorological values constitute a basic information category.

As specific *socio-ecological PA information* – reflecting the current situation within these agricultural areas – (J) the presence of water courses within a PA, (K) the

presence of implemented SMB and (L) also the attitude of the local farmers with regard to the provided SMB are described (Tab. 1).

Table 1: Table of indicators for describing the site-specific potential for SMB application within Pilot Areas.

Project Partner (PP)	Number and name of PP
Pilot Area (PA)	Name of the PA
A: Elevation above sea-level	(in meters)
B: Coordinates of the PA	(in degrees East and North)
C: Type of landscape	Flat – Hilly – Mountainous – Small valley – Mixed, (etc.)
D: Extension of the PA	Small (1-10 ha) – Medium (11-100 ha) – Large (101 – 1000 ha) – very large (> 1000 ha)
E: Geological substrate	(type)
F: Soil type	according to WRB (2015)
G: Soil depth	30-50 cm; 51-80 cm; 81-100 cm; deeper than 100 cm
H: Annual mean temperature	Mean value, 2000-2020
I: Yearly sum of precipitation	Mean value, 2000-2020
J: Presence of water courses in PA	(A) rivers, (B) brooks, (C) small water channels, (D) all three categories
K: Presence of implemented SMB	If yes, which one(s)
L: Attitude of the local farmers towards SMB	Open-minded, neutral, with prejudices, etc.

The questionnaire dealing with the data-query regarding all above-mentioned indicators was sent out to all PPs of the project (Tab. 1). The answers of all PPs allowed the creation of D 1.7.2, which is basic for the subsequent D 1.7.3. “Climate resilient tree and shrub species to be used for SMB”.

3. Pilot Area description

In this chapter, all Pilot Areas (PA) of the project partners are described following the scheme presented in chapter 2 - Methods. The sequence of the mentioned PPs follows the numbering given in the Application Form of the project TRANSFER Danube.

3.1 Pilot Areas of the Lead Partner - National Meteorological Administration, Romania

Table 2: Indicators of Pilot Area Adamclisi, LP1 – National Meteorological Administration, Romania.

Project Partner (PP)	LP1 – NMA (National Meteorological Administration)
Pilot Area (PA)	Adamclisi in region Dobrogea
A: Elevation above sea-level	158 m
B: Coordinates of the PA	Lat. 27.96556° - Long. 44.08806°
C: Type of landscape	Hilly – Small valley
D: Extension of the PA	very large (> 1000 ha)
E: Geological substrate	Limestone bedrock with loess cover (fine-grained sediment)
F: Soil type	Chernozem
G: Soil depth	deeper than 100 cm
H: Annual mean temperature	12,2 °C
I: Yearly sum of precipitation	525,4 mm
J: Presence of water courses in PA	Small water channels
K: Presence of implemented SMB	Wind-breaker forest belts, buffer strip forest vegetation along the small water channels and forest plantations
L: Attitude of the local farmers towards SMB	LP1-NMA does not know anything about their attitude

The extension of the PA (Tab. 2) allows the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence LP1 can discuss the implementation potential for SMB together with their ASP and local farmers.

Table 3: Indicators of Pilot Area Medgidia, LP1 – National Meteorological Administration, Romania.

Project Partner (PP)	LP1 – NMA (National Meteorological Administration)
Pilot Area (PA)	Medgidia in region Dobrogea
A: Elevation above sea-level	69,5 m
B: Coordinates of the PA	Lat. 28.25139° - Long. 44.24306°
C: Type of landscape	Flat and Hilly
D: Extension of the PA	very large (> 1000 ha)
E: Geological substrate	Limestone bedrock with loess and marl (fine-grained sediment)
F: Soil type	Chernozem
G: Soil depth	deeper than 100 cm
H: Annual mean temperature	12,0 °C
I: Yearly sum of precipitation	463,9 mm
J: Presence of water courses in PA	small water channels
K: Presence of implemented SMB	Wind-breaker forest belts, buffer strip forest vegetation along the canal, and forest plantations
L: Attitude of the local farmers towards SMB	LP1-NMA does not know anything about their attitude

The extension of the PA (Tab. 3) allows the recommendation of the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence all three types of SMB can be potentially implemented by the local farmers. So, LP1 can discuss the implementation potential for SMB together with their ASP and local farmers.

Table 4: Indicators of Pilot Area Tulcea, LP1 – National Meteorological Administration, Romania.

Project Partner (PP)	LP1 – NMA (National Meteorological Administration)
Pilot Area (PA)	Tulcea in region Dobrogea
A: Elevation above sea-level	4,4 m
B: Coordinates of the PA	Lat. 28.82417° - Long. 45.19056°
C: Type of landscape	Mixed - Flat and Hilly
D: Extension of the PA	very large (> 1000 ha)
E: Geological substrate	Mixed geology: hard rocks (schist, granite) & sediments (sand, clay, loess)
F: Soil type	Kastanoziom
G: Soil depth	deeper than 100 cm
H: Annual mean temperature	12,2 °C
I: Yearly sum of precipitation	491,9 mm
J: Presence of water courses in PA	Rivers, brooks and small water channels
K: Presence of implemented SMB	All types are present: wind-breaker forest belts, well-developed buffer-strip forest vegetation along water courses, and forest plantations
L: Attitude of the local farmers towards SMB	LP1-NMA does not know anything about their attitude

The extension of the PA (Tab. 4) allows the recommendation of the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence all three types of SMB can be potentially implemented by the local farmers. So, LP1 can discuss the implementation potential for SMB together with their ASP and local farmers.

As LP1-NMA does not know anything about the attitude of the farmers towards SMB implementation, it is recommended to establish a knowledge transfer process for them. Within this context, the ASP could support this task.

3.2 Pilot Areas of Project Partner 2 – Sensum Ltd., Croatia

Table 5: Indicators of Pilot Area Blato, PP2 – Sensum Ltd., Croatia.

Project Partner (PP)	PP2 – SENSUM (Sensum Ltd.)
Pilot Area (PA)	Blato in Zagreb County
A: Elevation above sea-level	116 m
B: Coordinates of the PA	Lat. 15.938415° - Long. 45.747943°
C: Type of landscape	Flat
D: Extension of the PA	small (8 ha)
E: Geological substrate	fine grained sediment
F: Soil type	Eutric Cambisol
G: Soil depth	51 - 80 cm
H: Annual mean temperature	12,0 °C
I: Yearly sum of precipitation	867,3 mm
J: Presence of water courses in PA	Rivers, brooks and small water channels
K: Presence of implemented SMB	No
L: Attitude of the local farmers towards SMB	PP2 does not know anything about their attitude

The relatively small extension of the PA (Tab. 5) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP2, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with their ASP and local farmers.

The presence of water courses within the PA allows the potential implementation of all three SMB types.

Table 6: Indicators of Pilot Area Rugvica, PP2– Sensum Ltd., Croatia.

Project Partner (PP)	PP2 – SENSUM (Sensum Ltd.)
Pilot Area (PA)	Rugvica in Zagreb County
A: Elevation above sea-level	105 m
B: Coordinates of the PA	Lat. 16.234801° - Long. 45.756577°
C: Type of landscape	Flat
D: Extension of the PA	small (4 ha)
E: Geological substrate	Alluvial Sediment
F: Soil type	Gleysol
G: Soil depth	81 - 100 cm
H: Annual mean temperature	12,0 °C
I: Yearly sum of precipitation	867,3 mm
J: Presence of water courses in PA	Rivers, brooks and small water channels
K: Presence of implemented SMB	No
L: Attitude of the local farmers towards SMB	PP2 does not know anything about their attitude

The relatively small extension of the PA (Tab. 6) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP2, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with their ASP and local farmers.

The presence of water courses within the PA allows the potential implementation of all three SMB types.

As PP2 does not know anything about the attitude of the farmers towards SMB implementation, it is recommended to establish a knowledge transfer process for them. Within this context, the ASP could support this task.

3.3 Pilot Areas of Project Partner 4 – University of Stuttgart, Germany

Table 7: Indicators of Pilot Area Site 1, PP4 – University of Stuttgart, Germany.

Project Partner (PP)	PP4 – IWS (University of Stuttgart)
Pilot Area (PA)	Site 1 in Landkreis Passau
A: Elevation above sea-level	360 m - 385 m, sloped
B: Coordinates of the PA	Lat. 13°17'21.92" E - Long. 48°29'28.78"N
C: Type of landscape	Hilly, on a slope facing into a small river valley
D: Extension of the PA	small (1 ha) – multiple small experimental fields
E: Geological substrate	Sand, locally gravelly, with minor interbeds of marl and clay
F: Soil type	Pseudogleyed Brown Earth (Cambisols in WRB 2015)
G: Soil depth	81 - 100 cm
H: Annual mean temperature	9,0 °C
I: Yearly sum of precipitation	880,0 mm
J: Presence of water courses in PA	Small Streams in valley bottom
K: Presence of implemented SMB	Wind-breaker forest belts, buffer-strip forest vegetation along the brook and forest plantations
L: Attitude of the local farmers towards SMB	Open-minded - but unsure about others in the community. The landscapes indicate that there are lots of SMB implemented, but not sure if they were created for this purpose or they exist due to zoning or historical reasons

The relatively small extension of the PA (Tab. 7) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP4, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with their ASP and local farmers.

The presence of water courses within the PA allows the potential implementation of all three SMB types.

Table 8: Indicators of Pilot Area Site 2, PP4 – University of Stuttgart, Germany.

Project Partner (PP)	PP4 – IWS (University of Stuttgart)
Pilot Area (PA)	Site 2 in Landkreis Passau
A: Elevation above sea-level	390 m - 420 m, sloped
B: Coordinates of the PA	Lat. 13° 6'54.68"E - 48°29'58.91"N
C: Type of landscape	Hilly, on a slope facing into a small river valley
D: Extension of the PA	small (1 ha)
E: Geological substrate	Sand, locally gravelly, with minor interbeds of marl and clay
F: Soil type	Cambisol
G: Soil depth	81 - 100 cm
H: Annual mean temperature	9,5 °C
I: Yearly sum of precipitation	760,0 mm
J: Presence of water courses in PA	Small Streams in valley bottom
K: Presence of implemented SMB	Wind-breaker forest belts close to the site
L: Attitude of the local farmers towards SMB	Open-minded - but unsure about others in the community. The landscapes indicate that there are lots of SMB implemented, but not sure if they were created for this purpose or they exist due to zoning or historical reasons

The relatively small extension of the PA (Tab. 8) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP4, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with their ASP and local farmers.

The presence of water courses within the PA allows the potential implementation of all three SMB types.

As the farmers are open-minded towards SMB implementation in both PA of PP4, it is recommended to discuss with them their specific options to establish the most fitting SMB in their agricultural area. This process could be supported through the ASP.

3.4 Pilot Area of Project Partner 5 – Central Danube Development Agency Nonprofit Ltd., Hungary

Table 9: Indicators of Pilot Area Mezőföld, PP5 – Central Danube Development Agency Nonprofit Ltd., Hungary.

Project Partner (PP)	PP5 – CDDA (Central Danube Development Agency Nonprofit Ltd.)
Pilot Area (PA)	Mezőföld, close to the Nagyhörcsök Experimental Station, Danube Plain
A: Elevation above sea-level	190 m
B: Coordinates of the PA	Lat. 18.519° E - Long. 46.869° N
C: Type of landscape	Flat
D: Extension of the PA	small (7,5 ha)
E: Geological substrate	Loess deposit (fine-grained sediment)
F: Soil type	Chernozem
G: Soil depth	> 100 cm
H: Annual mean temperature	12,3 °C
I: Yearly sum of precipitation	513,0 mm
J: Presence of water courses in PA	No (Nádor channel is located 4.8 km apart)
K: Presence of implemented SMB	Wind-breaker forest belts
L: Attitude of the local farmers towards SMB	Neutral, they do not have any fixed position.

The relatively small extension of the PA (Tab. 9) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP5, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with their ASP and local farmers. The neutral position of the farmers towards SMB implementation can be used as starting point for a fruitful knowledge transfer process.

The presence of water courses could be achieved with this broader space for discussion, and hence would allow the potential implementation of all three SMB types.

3.5 Pilot Area of Project Partner 6 – The Republic Hydrometeorological Service of Republika Srpska, Bosnia and Herzegovina

Table 10: Indicators of Pilot Area Trapisti, PP6 – The Republic Hydrometeorological Service of Republika Srpska, Bosnia and Herzegovina.

Project Partner (PP)	PP6 – RHMZ RS (The Republic Hydrometeorological Service of Republika Srpska)
Pilot Area (PA)	Banja Luka, Trapisti, agricultural land by the river Vrbas
A: Elevation above sea-level	161 m
B: Coordinates of the PA	Lat. 17,220429° E - Long. 44,804867° N
C: Type of landscape	Flat (alluvial deposits along the Vrbas River)
D: Extension of the PA	medium (45 ha)
E: Geological substrate	Alluvial sediment from fractional fine-grained sand in the upper soil layers and gravel in the deeper horizons
F: Soil type	Alluvial calcareous sandy soil & Eutric Fluvisol
G: Soil depth	51 - 80 cm
H: Annual mean temperature	12,3 °C
I: Yearly sum of precipitation	1031,0 mm
J: Presence of water courses in PA	River (Vrbas River)
K: Presence of implemented SMB	Buffer-strip forest vegetation along river Vrbas
L: Attitude of the local farmers towards SMB	Neutral, they do not have any fixed position.

The relatively small extension of the PA (Tab. 10) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP6, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with the local farmers. The neutral position of the farmers allows a fruitful knowledge transfer process.

The presence of water courses within the PA allows the potential implementation of all three SMB types.

3.6 Pilot Area of Project Partner 7 – Association “Centre for Sustainability and Economic Growth”, Bulgaria

Table 11: Indicators of Pilot Area Ivaylo, Pazardzhik, PP7 - Association “Centre for Sustainability and Economic Growth”, Bulgaria.

Project Partner (PP)	PP7 – CSEG (Association “Centre for Sustainability and Economic Growth”)
Pilot Area (PA)	Ivaylo, Pazardzhik, Bulgaria
A: Elevation above sea-level	222 m
B: Coordinates of the PA	Lat. 24.33330° E - Long. 42.21670° N
C: Type of landscape	Flat area
D: Extension of the PA	Very large (> 1000 ha)
E: Geological substrate	Sediment (fine-grained)
F: Soil type	Chromic Luvisols
G: Soil depth	>100 cm
H: Annual mean temperature	12,7 °C
I: Yearly sum of precipitation	567,9 mm
J: Presence of water courses in PA	Rivers, brooks and small water channels
K: Presence of implemented SMB	Wind-breaker forest belts and Buffer-strip forest vegetation along streams
L: Attitude of the local farmers towards SMB	Open-minded and willing to implement SMB.

The extension of the PA (Tab. 11) allows the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence PP7 can discuss the implementation potential for SMB together with their ASP and local farmers. As the local farmers are open-minded, a fruitful knowledge-transfer process should be possible.

3.7 Pilot Areas of Project Partner 8 – Czech University of Life Sciences Prague, Czech Republic

Table 12: Indicators of Pilot Area Benešov District, Central Bohemia Region, PP8 – Czech University of Life Sciences Prague, Czech Republic.

Project Partner (PP)	PP8 – CULS (Czech University of Life Sciences Prague)
Pilot Area (PA)	Benešov District, Central Bohemia Region, Czech Republic
A: Elevation above sea-level	450 m - 480 m
B: Coordinates of the PA	Lat. 14.872° E - Long. 49.718° N
C: Type of landscape	Hilly agricultural landscape
D: Extension of the PA	Large (616 ha)
E: Geological substrate	Crystalline bedrock with loamy weathered cover (substrate layer)
F: Soil type	Cambisol
G: Soil depth	>100 cm
H: Annual mean temperature	8,5 °C
I: Yearly sum of precipitation	670,0 mm
J: Presence of water courses in PA	Brooks
K: Presence of implemented SMB	Wind-breaker forest belts and Buffer-strip forest vegetation along the brooks
L: Attitude of the local farmers towards SMB	Neutral, they do not have any fixed position.

The extension of the PA (Tab. 12) allows the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence PP8 can discuss the implementation potential for SMB together with the ASP and local farmers.

Table 13: Indicators of Pilot Area Příbram District, Central Bohemia Region, PP8 – Czech University of Life Sciences Prague, Czech Republic.

Project Partner (PP)	PP8 – CULS (Czech University of Life Sciences Prague)
Pilot Area (PA)	Příbram District, Central Bohemia Region, Czech Republic
A: Elevation above sea-level	360 m - 400 m
B: Coordinates of the PA	Lat. 14.284° E - Long. 49.606 ° N
C: Type of landscape	Hilly agricultural landscape
D: Extension of the PA	Very large (5250 ha)
E: Geological substrate	Crystalline bedrock with loamy weathered cover
F: Soil type	Cambisol
G: Soil depth	>100 cm
H: Annual mean temperature	8,68 °C
I: Yearly sum of precipitation	612,0 mm
J: Presence of water courses in PA	Rivers and Brooks
K: Presence of implemented SMB	Wind-breaker forest belts and Buffer-strip forest vegetation along the brooks and rivers
L: Attitude of the local farmers towards SMB	Neutral, they do not have any fixed position.

The extension of the PA (Tab. 13) allows the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence PP8 can discuss the implementation potential for SMB together with the ASP and local farmers.

Table 14: Indicators of Pilot Area Nymburg District, Central Bohemia Region, PP8 – Czech University of Life Sciences Prague, Czech Republic.

Project Partner (PP)	PP8 – CULS (Czech University of Life Sciences Prague)
Pilot Area (PA)	Nymburg District, Central Bohemia Region, Czech Republic
A: Elevation above sea-level	250 m - 260 m
B: Coordinates of the PA	Lat. 15.298° E - Long. 50.197 ° N
C: Type of landscape	Flat lowland agricultural area
D: Extension of the PA	Very large (3000 ha)
E: Geological substrate	Quaternary fluvial and aeolian sediments
F: Soil type	Chernozem and clay-rich agricultural soils
G: Soil depth	>100 cm
H: Annual mean temperature	10,2 °C
I: Yearly sum of precipitation	535,0 mm
J: Presence of water courses in PA	Small water channels
K: Presence of implemented SMB	Wind-breaker forest belts and Buffer-strip forest vegetation along the small water channels
L: Attitude of the local farmers towards SMB	Open-minded and willing to implement SMB; Farmers are interested in climate adaptation measures and sustainable agricultural practices.

The extension of the PA (Tab. 14) allows the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence PP8 can discuss the implementation potential for SMB together with the ASP and local farmers.

As the farmers are either neutral or open-minded towards SMB implementation, the knowledge-transfer process to them should be fruitful.

3.8 Pilot Area of Project Partner 9 –Széchenyi István University, Hungary

Table 15: Indicators of Pilot Area Moson Plain, PP9 – Széchenyi István University, Hungary.

Project Partner (PP)	PP9 – SZE (Széchenyi István University)
Pilot Area (PA)	Moson Plain, Hungary
A: Elevation above sea-level	121 m
B: Coordinates of the PA	Lat. 17,25° E - Long. 47,90° N
C: Type of landscape	Flat
D: Extension of the PA	Medium (11 - 100 ha)
E: Geological substrate	Sediment (gravel)
F: Soil type	Calcareous Danube alluvial soil and Calcic Fluvisol (Arenic soil)
G: Soil depth	60 - 120 cm
H: Annual mean temperature	11,2 °C
I: Yearly sum of precipitation	571,0 mm
J: Presence of water courses in PA	River (River Lajta)
K: Presence of implemented SMB	Wind-breaker forest belts
L: Attitude of the local farmers towards SMB	Open-minded, as the area is managed by the university.

The relatively small extension of the PA (Tab. 15) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers who are university staff. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP9, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with their ASP and university-related local farmers.

The presence of water courses (River Lajta) within the PA allows the potential implementation of all three SMB types.

3.9 Pilot Areas of Project Partner 10 – Institute of Hydrometeorology and Seismology, Montenegro

Table 16: Indicators of Pilot Area Berane (Vinicka), PP10 – Institute of Hydrometeorology and Seismology, Montenegro.

Project Partner (PP)	PP10 – IHMS (Institute of Hydrometeorology and Seismology)
Pilot Area (PA)	Berane (Vinicka), Northern Region, Montenegro
A: Elevation above sea-level	650 m
B: Coordinates of the PA	Lat. 19.844952° E - Long. 42.809409° N
C: Type of landscape	Mixed (slightly hilly, river valley area)
D: Extension of the PA	Small (0,5 ha)
E: Geological substrate	Alluvial Sediments
F: Soil type	Eutric Cambisol, clay-loam soil
G: Soil depth	>120 cm
H: Annual mean temperature	10,5 °C
I: Yearly sum of precipitation	890,7 mm
J: Presence of water courses in PA	Rivers
K: Presence of implemented SMB	No
L: Attitude of the local farmers towards SMB	Neutral, without fixed stance

The relatively small extension of the PA (Tab. 16) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP10, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with the local farmers.

The presence of water courses (rivers) within the PA allows the potential implementation of all three SMB types.

Table 17: Indicators of Pilot Area Danilovgrad, Kosić, PP10 – Institute of Hydrometeorology and Seismology, Montenegro.

Project Partner (PP)	PP10 – IHMS (Institute of Hydrometeorology and Seismology)
Pilot Area (PA)	Danilovgrad, Kosić, Central Region, Montenegro
A: Elevation above sea-level	48 m
B: Coordinates of the PA	Lat. 19.1542° E - Long. 42.5318° N
C: Type of landscape	Flat area, slightly undulated
D: Extension of the PA	Small (2 ha)
E: Geological substrate	Alluvial river Sediments
F: Soil type	Eutric Cambisol, clay-loam soil
G: Soil depth	>120 cm
H: Annual mean temperature	16,7 °C
I: Yearly sum of precipitation	1736,1 mm
J: Presence of water courses in PA	Small water channels
K: Presence of implemented SMB	No
L: Attitude of the local farmers towards SMB	Open minded and willing to implement SMB

The relatively small extension of the PA (Tab. 17) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP10, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with the local farmers.

The presence of water courses (small water channels) within the PA allows the potential implementation of all three SMB types.

Table 18: Indicators of Pilot Area Niksic (Mali Brezovik), PP10 – Institute of Hydrometeorology and Seismology, Montenegro.

Project Partner (PP)	PP10 – IHMS (Institute of Hydrometeorology and Seismology)
Pilot Area (PA)	Niksic (Mali Brezovik), Central Region, Montenegro
A: Elevation above sea-level	647 m
B: Coordinates of the PA	Lat. 18.9258° E - Long. 42.839° N
C: Type of landscape	Slightly hilly, valley area
D: Extension of the PA	Small (1 ha)
E: Geological substrate	Alluvial and colluvial deposits
F: Soil type	Eutric Cambisol, loam
G: Soil depth	>120 cm
H: Annual mean temperature	11,7 °C
I: Yearly sum of precipitation	1976,0 mm
J: Presence of water courses in PA	Small rivers
K: Presence of implemented SMB	No
L: Attitude of the local farmers towards SMB	neutral, without fixed stance

The relatively small extension of the PA (Tab. 18) calls for an extension of the space, where the implementation potential for SMB is thematized with the local farmers. All 3 SMB categories demand the planning-space of a huger agricultural area. For PP10, hence the delineation of a broader area is recommended, for which the implementation of SMB can be discussed together with the local farmers.

The presence of water courses (small rivers) within the PA allows the potential implementation of all three SMB types.

The fact that the farmers are neutral or open-minded towards SMB implementation should be a fitting starting point for the necessary knowledge-transfer process.

3.10 Pilot Areas of Project Partner 11 – University of Natural Resources and Life Sciences, Vienna, Austria

Table 19: Indicators of Pilot Area Marchfeld, PP11 – University of Natural Resources and Life Sciences, Vienna, Austria.

Project Partner (PP)	PP11 – BOKU (University of Natural Resources and Life Sciences, Vienna)
Pilot Area (PA)	Marchfeld, Austria
A: Elevation above sea-level	156 m
B: Coordinates of the PA	Lat. 16,598139° E - Long. 48,239444° N
C: Type of landscape	Flat area
D: Extension of the PA	Very huge (>1000 ha)
E: Geological substrate	Alluvial sediments of the River Danube
F: Soil type	Chernozem
G: Soil depth	>120 cm (30 cm - > 120)
H: Annual mean temperature	11,6 °C
I: Yearly sum of precipitation	560,4 mm
J: Presence of water courses in PA	Small water channels
K: Presence of implemented SMB	Wind-breaker forest belts
L: Attitude of the local farmers towards SMB	Open-minded & also neutral, without fixed stance, depending on the specific farmer within the PA

The extension of the PA (Tab. 19) allows the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence PP11 can discuss the implementation potential for SMB together with the ASP and local farmers.

Table 20: Indicators of Pilot Area Tullnerfeld, PP11 – University of Natural Resources and Life Sciences, Vienna, Austria.

Project Partner (PP)	PP11 – BOKU (University of Natural Resources and Life Sciences, Vienna)
Pilot Area (PA)	Tullnerfeld, Austria
A: Elevation above sea-level	192 m
B: Coordinates of the PA	Lat. 16,157669° E - Long. 48,326765° N
C: Type of landscape	Flat area
D: Extension of the PA	Very huge (>1000 ha)
E: Geological substrate	Alluvial sediments of the River Danube and smaller rivers
F: Soil type	Chernozems, Cambisols, Gleysols
G: Soil depth	>120 cm
H: Annual mean temperature	10,2 °C
I: Yearly sum of precipitation	814,5 mm
J: Presence of water courses in PA	Small water channels and small brooks
K: Presence of implemented SMB	Wind-breaker forest belts, Buffer-strip forest vegetation along brooks
L: Attitude of the local farmers towards SMB	Open-minded & also neutral, without fixed stance, depending on the specific farmer within the PA

The extension of the PA (Tab. 20) allows the strategic implementation of SMB. Due to the presence of water courses, also Buffer-strip forest vegetation along streams can be included. Hence PP11 can discuss the implementation potential for SMB together with the ASP and local farmers.

The fact that the farmers are open-minded or neutral towards SMB implementation should be a fitting starting point for the necessary knowledge-transfer process together with the ASP.

4. Summary

The description of the Pilot Areas (PA) of all project partners of the TRANSFER Danube project regarding indicators which allow the assessment of the PA suitability for response strategy implementation in terms of the already described SMB (Strategic Measure Bundles) was carried out as central part of D.1.7.2.

The project partners contributed their PA data, based on a questionnaire, which guarantees a homogeneous database. The provided data will serve as basis to deduce and recommend fitting tree- and shrub-species to be used for SMB establishment (D1.7.3). All data categories provided will be useful for this task. In sum there are 19 PA in the project TRANSFER Danube.

The provided indicators for SMB implementation encompass the thematic areas of geographic data, soil and geology data, meteorological data and also socio-ecological data. The synoptic view of the indicators provides the necessary database for the tasks to be fulfilled in D1.7.3.

It became visible through the provided PA data, that some project partners should extend their view on SMB implementation over the borders of their current PAs, as some are really small and would not allow any SMB to be established there. This can be achieved easily by just discussing the SMB issues with farmers of an agricultural region being bigger than the related PA, which extend in some cases over just few hectares.

In other cases, PA were already defined as huge agricultural areas – there, the SMB discussion and knowledge transfer process can be achieved within their defined areas.

In many of the cases, project partners have related ASP. For all of those project partners there is given the recommendation to communicate and discuss all SMB issues to farmers in close collaboration with their ASP.

5. References

Koeck, R., Gerhardt, E., Hochbichler, E., Lexer, M.J. (2026). Activity 1.7 – Identification of Response Strategy Potential. D1.7.1 - Technical outline of the strategic measure bundles (SMB). Technical Report - Project TRANSFER-Danube, EU-Interreg Danube Region Programme. Accessible via ResearchGate:

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Project Info:

TRANSFER-Danube EU-Interreg Danube Region Programme

InTegRAted moNitoring System For agro-climatic risks within DanubE Region

<https://interreg-danube.eu/projects/transfer-danube>

Lead Partner:
**National Meteorological Administration - Bucharest,
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Activity Info:

Activity 1.7 – Identification of response strategy potential

Responsible Partner:

Project Partner 11 – BOKU

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TRANSFER Danube project

EU-Interreg Danube Region Programme

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