

# Work package 4

## Progress report

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## History

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## 1 Introduction / Scope of Work package 4

The conclusions from the EUCPT scoping and advisory missions to Solotvyno were clear: immediate action should be taken to ensure the safety of the inhabitants of Solotvyno. With tools created in work package 1, 2 and 3 (hazard mapping, risk mapping, public awareness and decision making method) and facilitation of the stakeholders in implementing those tools, the immediate actions should be defined, together with an action plan. All the actions and activities should be in first instance focussed on improvement of the safety of inhabitants at risk.

### 1.1 Objectives of the work package

The goal of work package 4 was described in three objectives

#### Objective 1:

A feasible, concrete, broadly supported action plan to start mitigative actions in the short possible time in order to reduce/ take away risks to inhabitants of Solotvyno posted by the Solotvyno mine. The common understanding of the risk of all stakeholders and solution partners is of vital importance here. Its content is provided by work packages 1 & 2. The methodology to come to the most optimal plan is delivered by work package 3.

#### Objective 2:

A medium and long term sustainable planning for dealing with upcoming safety related problems in future in Solotvyno related with a further decay of the Solotvyno Mine and its impact on its surroundings.

#### Objective 3:

The evaluation of the different stages in this case is used to improve hazard mapping, risk mapping, public awareness and decision making method.

The activities in work package 4 are structured along various stages that align with the activities and development in Work package 1, 2, and 3. These work-packages are responsible for developing the various methods, approaches and solutions that support the objectives mentioned above. The activities undertaken in this work package serve to test, evaluate, verify and implement the ongoing developments of the ImProDiRet project. WP4 plays a critical role in the project by supporting the developments in Work Package 1-3 through:

- Ensuring that the results of the project are applicable to a real-world case. In other words, ensure that the results are feasible and are grounded in reality
- WP4 enables and provides critical feedback to Work-package 1-3, including the impact of their work, and the validation of the assumption and results.
- Refine the project and activities of the work packages through the received feedback from the application of the results to the Solotvyno case.
- In addition to the verification of the ongoing work within the project, Work-package 4 also provides evidence for the dissemination and re-usability of the project in the wider region and guidelines for other contexts and experts. WP4 serves as an evidence-based dissemination of the project for:
- Training and knowledge transfer -based on the results from the application to the Solotvyno case- to experts in the region so that methods can be adopted to improve the disaster risk reduction management in other areas in the region.
- The collection information about how the various methods can be applied in a real-life case, and provide guidelines, best practices and roadmaps to apply the project findings to other contexts.



## 1.2 Projected activities

Work package 4 aims to establish these objectives, connecting both the results of other work packages to a real-world urgent case, as well as gather evidence for sharing the project outcomes to a wider community, through a continuous and interactive activities. The overarching principle used in this work package is that disaster risk reduction is about knowing each other and each other's roles, come into contact, agree on the underlying facts and basic assumptions and find shared solutions for potential disasters. We divide the activities according to the overarching principle in different stages: (1) assessment, (2) platform, (3) consensus, (4) community involvement, (5) development of roadmap. Each of these stages has a specific focus and enables an interactive discussion and knowledge transfer of the project results as well as the verification of the ongoing work in the other work packages, and refinement of the next stage of the project. The platform and its meetings form the heart of this work package. The platform itself is however not mentioned as it is not an activity and the forming of the platform is a logical consequence of the first stage. To emphasise the importance of the platform it is mentioned as a stage.

### 4.1 stakeholder (SH) & solution partners (SP) assessment (interviews).

The goal of this activity is to get a thorough understanding of the different stakeholders and solution partners, like the municipality, the mining company, but also for instance the hospital which has a lot of 'salt patients'. This understanding will be established through conducting interviews with (local) partners, key stakeholders and ministries. The results of the interviews are gathered and validated by in a workshop. This workshop is the first of a series of workshops. These series will form a platform. The findings after discussion in the platform will be finally presented in a report describing perceived needs and conditions to a solution and possible directions of solutions. This report with the findings of the platform meeting well feeds into especially WP 2, and 3

### 4.2 Finding consensus on the situation of the Soltvyno mining area

The activities in this stage have the goal to find common ground, facts and basic assumptions on which future decision making can be founded. In other words, it forms the solid foundation of the roadmap. Besides that, Work package 1 can test and verify its methodology used by presenting its hazard and risk maps in the second platform meeting and it will be then again input for risk awareness (work package 2). The exact content of the platform meetings is part of the methodology developed in work package 3. The first activities below will be conducted in work package 1. The third is also dependent on the work package 3.

### 4.3 involvement of stakeholders from the community

The ultimate stakeholders are the people at risk. The involvement of them in the solution is crucial. The aim of this stage is to get them involved. For that the information level should be brought on an equal level. From this stage the Soltvyno platform for risk reduction will be extended with a delegation from the inhabitants at risk. By involving them in the solutions the discussion will get more depth and meaning. Better solutions can be proposed. The main activities in this step are:

### 4.4 Road map to Disaster Risk Reduction in Soltvyno

Developing a road map for Soltvyno with short term solutions and a long term planning, including who is doing what. The goal is that the road map has a broad support and leads to real solutions. Because of the implications the solution partners have finally to agree on the road map. Because this will be in the end a political decision by the solution partners ImProDiReT will go as far as making the concept agreement on the road map and an obligation to put effort in getting agreement. Every step in this process is drafted by milestones in work package 3 and evaluated to provide feedback for the activities in work package 3.



## 2 Progress

The flow of the work package is described by actions. Each action as a description, a goal and has results.

### 2.1 Actions

#### 2.1.1 Before start of the project:

##### 10-4-2017 Kyiv

First meeting with the ministerial working group on the Solotvyno case

**Goal:** explain the project and receive intel on the state of play

**Results:** Project was well received, but also criticism in the form of why EU not directly give money to solve it. After 1 ½ years after the EUCP Missions to Solotvyno nothing has changed. No measures are taken. Situation is discussed over and over.

##### 26-2-2018 → 28-2-2018 Kyiv

Meeting with EU Delegation and DG ECHO Technical assistant.

**Goal:** create awareness of the project. Explain the situation in Solotvyno especially the relation with EUCPT missions in 2016.

**Result:** met and explained project

Meeting with Stella Shekhunova of IGS-NASU

**Goal:** align the objectives of the project, especially those in Solotvyno.

**Result:** Stella and her team defined their role in the project.

Meeting with Dutch Embassy

**Goal:** create awareness of the project. Explain what the goals are especially for the situation in Solotvyno.

**Result:** met and explained project, feedback on the particularities of working in UA.

#### 2.1.2 During project:

##### 12-3-2018 → 14-3-2018 Kyiv (kick off meeting)

Meeting with representation of State Emergency Service

**Goal:** getting full support of SESU by giving them a role in project

**Result:** The SESU showed reluctance to be part of the project. This was expressed by creating administrative barriers. Project should write letters and they would reply likewise. Letters for support were written, but no answer was received other than it was in procedure.

Internal meeting with Work packages 1,2,3



**Goal:** Set the directions and the end goals for work package 4 and the contribution of the other work packages to this goal.

**Results:** It was a first introduction of the work package leaders of 1,2 and 3 to the situation in Sotolvyno. Result is that we shared the outcome of work package 4

### 3-2018 → 6-2018

Stakeholder and solution provider mapping

**Goal:** have an overview of the institutions involved and map their role in the project and their stance towards the project and towards possible outcomes.

**Results:** see deliverable 4.1. Especially the roles and stances of the ministries and the HQ of SESU was seen as challenging.

### 25-6-2018 → 26-6-2018 Kyiv (project meeting)

First Sotolvyno platform meeting (25-6-2018)

**Goal:** Further introduction of project and its team to ministerial working group and commit them to the objectives.

**Result:** see deliverable 4.5.: commitment to project and agreed that ministerial working group will be used as communication platform.

### 4-7-2018 Kyiv

Meeting with Deputy minister of Ministry of Agroculture and Policy.

**Goal:** Further deepening the commitment with the project. Ministry was seen as liability in Stakeholder analysis

**Result:** Deputy minister gave full support and shared our concerns. She gave orders to her staff to stay on top of the case.

### 23-7-2018

Letter to SESU

**Goal:** get formal support of the project by State Emergency Service in Kyiv.

**Result:** to be determined in visit to Kyiv 30-7 to 2-8.

### 30-7-2018 → 2-8-2018 Kyiv

Meetings with ministry of Agropom and SESU

**Goal:** further discussion on which solution envisaged and support of SESU to project (follow-up on letter 23/7)

**Result:** meetings were planned and cancelled. Strong signal of not willing to connect to project.

Work together with IGS-NASU on expectation for the hazard and risk maps of Sotolvyno.



**Goal:** Discuss the outcome of the research done by IGS-NASU. What quality and how to use them.

**Results:** opinions shared and agreed. The hazard and risk map of Solotvyno to be made solitary of work done in WP 1 by MSFS.

### 3-8-2018 → 7-8-2018 Uzhgorod

Interviews with several stakeholders in Uzhgorod

**Goal:** to get a situational overview of the state of play and opinions on the future for both Solotvyno as Transcarpathia.

**Result:** in deliverable 3.1 the interview results are presented. For work package 4 the interviews gave extra insight in situation in Solotvyno, especially the perspective of the different heads of department and environmental inspection.

### 7-8-2018 → 10-8-2018 Solotvyno

Interviews with several stakeholders in Solotvyno, like (deputy) mayor, entrepreneurs, heads of school, clergymen, inhabitants, ex-mineworkers

**Goal:** to get a situational overview of the state of play and opinions on the future for both Solotvyno.

**Result:** in deliverable 3.1 the interview results are presented. For work package 4 the interviews gave extra insight in situation in Solotvyno, especially the sentiment about the old times when the mines were open and the importance of economic development.

### 26-9-2018 Kyiv

Meeting with the SESU.

**Goal:** Support of SESU to project (follow-up on letter 23/7)

**Result:** Meeting was in Library of IGS-NASU. We were not invited in location of SESU. The gentlemen of SESU gave no direct answer to question of support. Every thing seems to be dependent on rules in SESU.

### 24-1-2019 → 29-1-2019 Uzhgorod

Internal meeting with ADRZ

**Goal:** draft a joined plan how to proceed with Solotvyno case.

**Result:** It seems that the Kyiv level government tries to be far from the problem. The upcoming time it is better to invest in the regional government and further deepening the problem definition to get more sight on a possible way out. Consequence is that the broad Solotvyno platform as envisaged in the project plan will be replaced by other high level meetings.

### 4-3-2019 → 5-3-2019 Uzhgorod

internal meeting with ADRZ

**Goal:** draft a joined plan how to proceed with Solotvyno case.





**Result:** It seems that the Kyiv level government tries to be far from the problem. The upcoming time it is better to invest in the regional government and further deepening the problem definition to get more sight on a possible way out. Consequence is that the broad Solotvyno platform as envisaged in the project plan will be replaced by other high level meetings.

project meeting with consortium partners

**Goal:** come with a solution for the differences in approach for the Solotvyno hazard and risk maps.

**Result:** The hazard and risk maps of IGS-NASU are the most relevant for work package 4. The maps by MSFS are great input for the more general risk awareness campaigns.

Press briefing

**Goal:** maintain the outside pressure on the project and informing public about what project is doing. Both for the whole of Transcarpathia and the situation in Solotvyno.

**Result:** see deliverable 6.1. The hazard and risk maps of IGS-NASU are the most relevant for work package 4. The maps by MSFS are great input for the more general risk awareness campaigns.

### 31-3-2019 → 9-2019

Presidential elections, parliamentarian elections, appointment new governor

The elections crippled the ministries as they were transformed and merged under new political leaders. The old governor and deputy governor were for some time powerless and the wait for the new governor was long.

**Results:** stakeholders started sitting on their hands. Not moving.

### 15-4-2019 → 17-4-2019 Solotvyno

Meetings with local government, liquidation company and heads of school

**Goal:** presentation of the decision-making app made By TUDelft and presentation of the hazard and risk map by IGS-NASU

**Result:** See deliverable 4.6. The hazard and risk maps of IGS-NASU were received with big interest. The app was also well received. In the discussion afterwards especially the head of the Romanian school opposed the project.

### 10-5-2019

Letter to Ministry AGROPOM

**Goal:** involve the ministry as agreed in summer 2018. Another attempt to involve the ministry in the Project.

**Result:** Letter was sent, no response

### 4-6-2019 Uzhgorod



### Meeting with OSCE

**Goal:** understand the involvement of the OSCE in Sotolvyno case

**Result:** OSCE is involved in monitoring environmental issues. Sotolvyno was selected as a problem of interest. They promote the solution provided by Mr Palland of the Spa speleocentre. Agreed that they will endorse our action in Kyiv by putting pressure on prime ministry.

### 6-6-2019 → 7-6-2019 Sotolvyno

Meetings with local teachers, deputy major and liquidation company

**Goal:** discuss possible outcomes which will create a break through.

**Result:** No new ideas from local government, accept that they don't think pumping of water out of the crater lakes is a problem. Reasons: geological institute in L'viv agreed. It is public accessible open water. Everybody is allowed to use it.

### 14-9-2019 → 20-9-2019 Uzhgorod

Meeting with new governor of Transcarpathia

**Goal:** Endorsement of High-level international conference on the issue of Sotolvyno.

**Results:** see deliverable 4.7. New governor endorsed the idea to organize a high-level conference. The regional government gives full support of the conference and will help organizing it.

### 9-2019 → 11-2019

Organising high level conference on 14-11-2019

**Goal:** all stakeholders invited, pressure on ministries to send high-level representation in place.

**Result:** The red tape of the regional government prevented sending the invitation letters in time. The ministries still didn't want to respond to requests as soon as it sounded official. The conference on the 14<sup>th</sup> had to be cancelled and was postponed to the end of January 2020.

A discussion paper was made and send for consultation to the stakeholders.

### 13-11-2019 → 15-11-2019 Uzhgorod

Meeting with Governor

**Goal:** present the risk and hazard maps of Sotolvyno and presenting discussion paper, sketching the scenarios

**Result:** see deliverable 4.8. Governor absorbed the maps and agreed on the presented scenarios and the way forward to organise the high level conference on Sotolvyno. The governor will sign the invitation letter to the stakeholders. Which will be accompanied by a side letter of Peter Glerum as project leader.

### 11-2019 → 1-2020



### Preparation of high-level conference on the situation in Solotvyno

**Goal:** organise a conference where the most prominent stakeholders would be present to discuss the discussion paper and come with a joint declaration.

**Result:** under continuous pressure the invitation letter was finally signed on 20<sup>th</sup> December. By administrative mistakes it was only sent in the first week of January in the midst of the 'Winter break' in Ukraine.

The discussion paper was further extended and improved after consultations with stakeholders. See deliverable 4.9

The new governor was dismissed, and the new deputy governor became acting governor. In Kyiv the merge of the ministry of economics and agriculture was reversed.

### 28-1-2020 → 31-1-2020 Uzhgorod

Meeting with acting governor

**Goal:** inform him about project and his role in the conference.

**Result:** Fully cooperation by the governor. Understanding of our approach and his role.

Conference on the situation in Solotvyno.

**Goal:** getting the stakeholder together to jointly decide which direction should be chosen.

**Result:** a joint declaration was made with agreement of everybody present. See deliverable 4.10.

### 2-2020 → 3-2020 ??????

Dissemination of joint declaration to Ministries in Kyiv (organised together with EU delegation) and informative meeting to DG ECHO in Brussels.

**Goal:** Present the result of the project and create momentum for new actions.

**Result:** due to the outbreak of the COVID-19 virus all meetings Europe wide were postponed or cancelled.



### 3 Deliverables

#### 3.1 General overview

During the start of the project a inconsistency was observed between the timeline in the description of the project and the GANTT chart. In principle, with the description as leading, the deliverable should be ready 6 month before projected and logical possible. This was corrected in the first technical report on WP4.

Even with the corrected deadlines it seemed not feasible to deliver most of the reports in time. This had to do with the environment in which the work package had to act but had also do with the dependency on other work packages.

##### 3.1.1 Dependency on other work packages

Work package 1 had to deliver hazard and risk maps as input for work package 4. The project plan assumed that the methodology used for the Transcarpathian and the Solotvyno risk assessment would be similar. This was, however, not feasible. The Transcarpathian risk assessment method appeared to not specific enough for the needed hazard and risk maps in Solotvyno. It was decided that the hazard and risk maps made by MSFS should be used in the Solotvyno risk awareness campaign. IGS-NASU would work on the hazard and risk maps and then solely on the (hydro)geological hazards. During the project it appeared that those maps should be very robust to be accepted. Also, because other geological institutes were producing similar maps. IGS-NASU's massive research resulted in scientific solid maps. Logically IGS-NASU took more time to deliver. Time that was granted on the base that the reality had changed anyway, see next paragraph.

##### 3.1.2 Changing reality/ political environment

From the start of work package 4 it became clear that the commitment showed in the proposal phase of the project had changed. This shifted despite early actions before the formal start of the project from commitment and endorsement to a kind of ignoring the project. While the interest in the project and the perceived value was growing in the region of Transcarpathia and the local level, on the state level it seemed the stance towards the project was growing colder. This had a several reasons, like a continuous change of deputy ministers who were responsible for the case, but also the political regime changes what was taking effect in 2019 and slowed down and even stopped every progress. First on national level but also on the regional level. This standstill was for the national level practically as long as 9 months. On the regional level 6 month.

The project started, as intended, with using the ministerial working group as the platform for disaster risk reduction in Solotvyno. It was identified that all stakeholder were represented in this and the ministry of agriculture agreed on this. After two meetings it showed to be less and less possible to make any contact with ministry. The meetings were simply not organised anymore. It appeared not possible to establish another platform with the same stakeholders.

#### 3.2 Specific overview of deliverables

Deliverable 4.1:	Stakeholder and Solution partner map for Solotvyno case.
Due date:	30-4-2018 (delayed 6 month) 31-10-2018
Submitted:	1-7-2018



Rational:	The stakeholder and solution partner map for Solotvyno was submitted in time. According to the corrected deadlines.
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Deliverable 4.2:	Hazard map for Solotvyno area
Due date:	31-8-2018 (delayed 6 month) 28-2-2019
Submitted:	8-9-2018
Rational:	Hazard map for Solotvyno area was submitted in time according to corrected deadlines

Deliverable 4.3:	Risk map for Solotvyno area
Due date:	31-8-2018 (delayed 6 month) 28-2-2019
Submitted:	7-3-2019
Rational:	Risk map for Solotvyno area was submitted after the deadline. He deliverable needed more verification and some extra research. See general paragraph in this section.

Deliverable 4.4:	Leaflet for inhabitants Solotvyno
Due date:	30-11-2018 (delayed 6 month) 31-5-2019
Submitted:	4-3-202
Rational:	The leaflet was incorporated in a magazine special for the inhabitants of Solotvyno. The hazard and risk maps had first to be presented to the different institutions before publishing. Also, the risk and hazard maps filled only one of the magazines the logic of the magazines made the risk and hazard maps published in the magazine in February. The form a leaflet was not exactly used. The risk and hazard maps needed more explanation to be of use.

Deliverable 4.5:	Minutes of 1 <sup>st</sup> Platform meeting
Due date:	30-6-2018 (delayed 6 month) 31-12-2018
Submitted:	1-7-2018
Rational:	The ministerial working group was hosting the first platform meeting.

Deliverable 4.6	Minutes of 2 <sup>nd</sup> Platform meeting
Due date:	30-11-2018 (delayed 6 month) 31-5-2019
Submitted:	6-3-2020
Rational:	In spite of agreement with the Ministerial working group and several (mostly different deputy ministers) the working group didn't come together anymore. This was partly due to the election deadlock but it was also a sign of decreasing involvement.



	A shift of focus made the second platform meeting was a local stakeholder meeting on the 17 <sup>th</sup> of April 2019.
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Deliverable 4.7	Minutes of 3 <sup>rd</sup> Platform meeting
Due date:	31-01-2019 (delayed 6 month) 31-7-2019
Submitted:	10-3-2020
Rational:	Having a new governor made it possible to start the political part of the project again. In Kyiv the merge of the ministry of Agriculture and Economic affairs was still leading to radio silence. The meetings with the governor was never alone. ARDZ always arranged other important regional governmental stakeholders to attend to the meeting. In this way building a platform. The meeting described in this deliverable was 16-9-2019.

Deliverable 4.8	Minutes of 4 <sup>th</sup> Platform meeting
Due date:	30-4-2019 (delayed 6 month) 31-10-2019
Submitted:	10-3-2020
Rational:	It was decided in the project that organising a high-level conference was needed to create momentum. This meeting, again with the governor, was preparational to the high-level conference on 14-11-2019. The conference was postponed due to problems invite stakeholders by the governor.

Deliverable 4.9:	Draft Road map Solotvyno
Due date:	28-2-2019 (delayed 6 month) 30-6-2019
Submitted:	25-2-2020
Rational:	<p>The draft roadmap was delivered well over time. As written before the actions in this work package became heavily depended on politicalised governmental bodies. The effect was that for a longer period it was hard to make progress on the outcome of work package 4. The impasse on the ministerial level was to be addressed otherwise a solution on the local level couldn't be solved. A high-level conference was seen as the leverage.</p> <p>The draft road map was converted to a discussion paper on the state of play and the scenarios that would provide a way out.</p> <p>The objectives of the roadmap were not totally addressed in this way. It was however seen as the highest achievable. The discussion paper was shared and verified with important stakeholders.</p>

Deliverable 4.10	Final Road map Solotvyno
Due date:	30-4-2019 (delayed 6 month) 31-12-2019
Submitted:	25-2-2020



Rational:	<p>On 29 January 2020 the conference was held. Over 40 participants were engaged in discussions and knowledge transfer. A common ground was formed and based on that a joint declaration was made. This joined declaration in both English as Ukrainian will be presented separately to the stakeholders which had only weak representation, like the ministries in Kyiv, and stakeholder in the EC.</p> <p>Like the draft road map, the joint declaration is not a true roadmap. On the other hand it gives direction and a clear, share endpoint is given.</p>
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## 4 Conclusions

### 4.1 General

Work package 4 was one of the work packages where the need could be felt. Each time the project team visited the mining area in Solotvyno it the emergency became more eminent. The collapses were rapidly widening and one of the high shaft constructions collapsed. Physically not a single prevention measure was taken. The number of pumps floating in the crater of mine number 7 increased every summer. The waste on the premises of the mine grow exponentially.

Looking back on all the efforts that have been made to get the responsible ministry involved, it can be concluded that the fast deteriorating situation made no impact in the ministries in Kyiv. Understandably governing is making choices and resources have to be prioritised, but the almost complete neglect after calling the state of emergency and triggering the Union Civil Protection Mechanism is at least inconsistent.

By investing in the regional, local government and stakeholder the project made progress. A strong statement was produced which can be the foundation of the real solution. The strong signal was established in a special conference dedicated to the emergency situation in Solotvyno.

### 4.2 Project flow

#### 4.2.1 Stakeholder and solution partners assessment (interviews)

In the summer of 2018 series of interviews were done. It resulted in a complex overview of responsibilities, interests and knowledge. It appeared that the situation was fluid. Actors changed position and almost every time we engaged with the stakeholder the overall picture had to be adjusted. Sometimes the project was confronted with information where the verification was beyond the possibilities of the project. We were dependent on the information given.

The shifting picture was input for work package 3. The decision-making model was made such that it could cope with the uncertainties in situation like the Solotvyno emergency.

#### 4.2.2 Finding consensus on the situation of the Solotvyno mining area

As described above the picture sketched by the stakeholders and the solution partners was not a constant. Elections leading to a regime change on the national level created on the national, regional and local level to postponing decisions.

On the local level short term economics had an important influence on the way risks were perceived. This made finding consensus on the situation of the Solotvyno mining area hard. The conscientious work of IGS-NASU in mapping the (hydro)-geological situation and its consequences for above ground human actions of work package 1 appeared to be crucial. The fact that IGS-NASU made such an effort build trust.

The meticulous work of IGS-NASU was needed but took time. The maps that were robust enough to convince appeared halfway 2019. By that time, however, it was already decided that the project needed to organize a high level conference to make impact.

#### 4.2.3 Involvement of stakeholders from the community

The stakeholders were involved in several ways. To start with the interviews we did with a very diverse set of people. Entrepreneurs, former mine workers, a man whose house collapsed after the 2009 subsidence. In the interviews we saw the importance of the situation for the





community. The entrepreneurs created a substantial part of the incomes for the households. But also, the ethnic division was sometime overly present and, on some issues, totally absent. In work package 2 teachers were trained in risk awareness training. This had as off spin that most of the teachers became engaged in the project. Sometimes taking initiative beyond expectation and better than an outside project ever can do. In work package 3 the involvement of the community became almost 100%. The TUDelft organized together with above mentioned teachers and other local stakeholder a survey on risk perception and perspectives on action.

The project invited the group of active teachers to the Soltvyno High Level conference to voice the community.

#### 4.2.4 Road map to Disaster Risk Reduction in Soltvyno

The high-level conference was introduced in the project as a way to come to the road map. The conference had as goal to create a common understanding of the situation and create a way out of the impasse that made the physical situation to deteriorate and in the same time not a single action was taken to stop that. The project made a discussion paper that sketched the impasse and gave several options to move out of it.

During the conference we could feel consensus for one of the scenarios that was presented as a point on the horizon. This consensus was shaped in joint declaration. This declaration, especially when it is further endorsed by the ministries, and supported by the European Union can form the start of real change in Soltvyno.

### 4.3 Objectives

Work package 4 had three objectives. Here it will be checked how far they were met.

**Objective 1:** *A feasible, concrete, broadly supported action plan to start mitigative actions in the short possible time in order to reduce/ take away risks to inhabitants of Soltvyno posted by the Soltvyno mine. The common understanding of the risk of all stakeholders and solution partners is of vital importance here. Its content is provided by work packages 1 & 2. The methodology to come to the most optimal plan is delivered by work package 3.*

A broadly supported action plan is made, but it was not possible to come to immediate concrete actions. Problem analysis told the project that biggest step to take was having a shared vision on the end point and who could be part of that. The inputs for the shared vision was delivered by work package 1,2 and 3. The maps, training of teacher in risk awareness and the decision-making model gave the shared vision a higher quality.

**Objective 2:** *A medium and long term sustainable planning for dealing with upcoming safety related problems in future in Soltvyno related with a further decay of the Soltvyno Mine and its impact on its surroundings.*

This is closely related to objective 1. The project had to shift its attention to the biggest issue: the lack of a common ground to start from and the lack of where to end. The joint declaration can be seen as the roadmap to this end station.

**Objective 3:** *The evaluation of the different stages in this case is used to improve hazard mapping, risk mapping, public awareness and decision making method.*

*The activities in work package 4 are structured along various stages that align with the activities and development in Work package 1, 2, and 3. These work-packages are responsible for developing the various methods, approaches and solutions that support the objectives mentioned above. The activities undertaken in this work package serve to test, evaluate, verify and implement the ongoing developments of the ImProDiRet*



*project. WP4 plays a critical role in the project by supporting the developments in Work Package 1-3 through:*

Work package 4 was totally dependent of the outcomes of work package 1,2 and 3. As written above, the impact of the results of the other work packages appeared to be vital and beyond expectation. The reach out the community, the quality of the hazard and risk maps proved to be solid, robust and leaving the feeling that we really listened to the community.

It also showed the importance of a multi-facet approach. It was sensed in the project team, but also by the big group of supporters of the project, that a holistic approach includes people, opinions and also solutions for a way out.