

4. GAP ANALYSIS FOR THE WOOD-PROCESSING SECTOR IN NER OF BIH

Theory of a GAP analysis

In business and economics, GAP analysis is a resource assessment tool enabling a company, organization or geographical area to compare its actual or current performance with its potential or future performance. Certain indicators are defined and used in order to measure the performance. On a macro level one can for example investigate the change in GDP for a certain period in time compared to another period, whilst on the micro level, considering a smaller entity for example, it is more efficient to use indicators such as change in sales or increased product status.

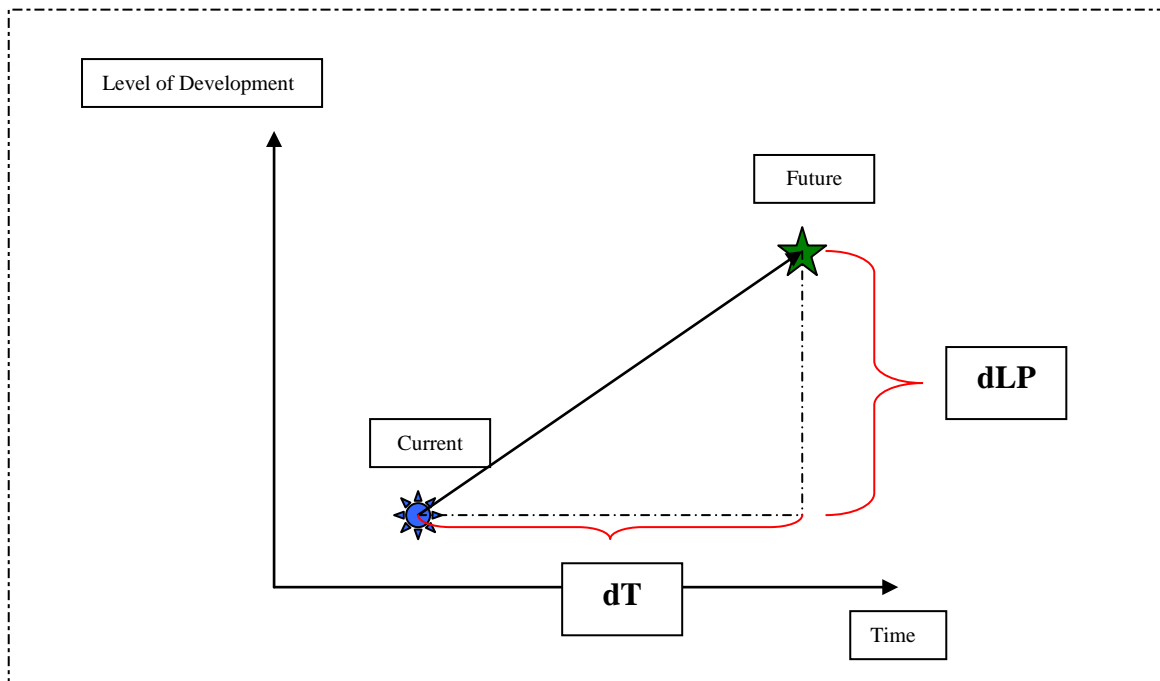
At the core of GAP analysis there are two questions:

- Where are we?*
- Where do we want to be?*

If a company or organization is under-utilizing resources it currently owns or is forgoing investment in capital or technology then it may be producing or performing at a level below its potential. This concept is similar to the base case of being below one's production possibilities frontier.

The GAP analysis process involves determining, documenting and approving the variance between business or other requirements and current capabilities. GAP analysis therefore naturally relates to benchmarking comparisons and other assessments. Once the general expectation of performance in the industry is understood it is possible to compare that expectation with the level of performance at which the company currently functions. The same comparison can be made based on current data on performance from a company or organization as compared to future targeted performance. This comparison becomes the GAP analysis. GAP analysis provides a foundation for measuring investment of time, money and human resources required to achieve a particular outcome.

The figure below illustrates what is stated above for any given organization, business entity or defined geographical area. The y-axis indicates the difference, dLP , in performance from a current state to a future desired state, as a function of time, dT . In other words, to achieve a future state the level of performance will increase by dLP during a period of time that is defined as dT . The diagonal line connecting Current with Future should be interpreted as the path or activity plan containing all activities to be undertaken in order to achieve the change and fill the gap.



Identification of GAPs

The quoted section above illustrates the idea of a GAP analysis as a tool for resource assessment. Based on the information gained during the company interviews in NER of BiH, further discussions with members of the Board for the Wood-processing sector, NERDA staff and local experts, impressions from the preformed study tour to Latvia, and wood sector knowledge of the international expert on developments in other European countries, in particular those in transition to market economy, the following GAPs for the wood-processing sector in NER of BiH were identified.

The identification process started with a description of current **characteristics for the wood-processing sector in NER of BiH**, which are summarised below:

- Much too many small wood-processing companies focusing on primary production (saw milling) as a “heritage” from the consequences of the war.
- Wooden raw material availability is limiting the development.
- Positive trade balance (export – import).
- Low degree of specialisation in larger enterprises due to insecure business environment and history.
- Low degree of wood utilisation.
- No strong, member driven and well-functioning entity representing the sector industry.
- Limited knowledge on modern production requirements and techniques.
- Positive pre-war situation in the sector.

There are **two positive characteristics** – today’s positive trade balance, which deviates from most other sectors in BiH’s economy, and the large export and good reputation on abroad markets for BiH wooden products, in particular furniture products, before the war in the early

1990es. It is close to compare with the similar situation in the Latvian forest industry sector, with a good reputation and economic dependence on this industry before the WW II and a rapidly and continuously growing export since the re-gained independence. Although the present positive trade balance for the BiH wood-processing sector has only developed slightly, there ought to be a large potential for a continued increase of the positive trade balance. The Latvian example should serve as an objective for such development in BiH and in particular for the NER of BiH, however, it is important to observe the success factors for the Latvian development that were summarised in chapter 3. These factors are today not present in the BiH sector and will need further consideration.

As proof for the positive trade balance in the wood-processing and furniture sectors in BiH during most recent years diagram and graphs are shown in *Annex 4 and 5*. In Annex 4 the positive trade balance for the first half of 2008 compared with the same period in 2007 for BiH in particular for furniture products is clearly seen (elaborated for the Wood Board by NERDA from the official BiH customs statistics). It, however, also illustrates the increasing wooden raw material import, which is a sign for the limitations in a fair raw wooden material supply currently existing in BiH. The graphs in Annex 5 show a more positive trend for the export of furniture from the Federation of BiH (no similar data available for Republika Srpska) compared with the same product export for neighbouring Croatia and Slovenia, though the export values for the Federation are still on a much lower level. The higher relative importance of wooden and furniture products in the total economy of the Federation, expressed in shares of the export values, compared with Croatia and Slovenia, is illustrated in *Annex 6*.

The diagram and graphs shown in the Annexes 4 to 6 do not specifically show the development in the NER of BiH. Thus, there is a need for additional data to be permanently gathered and analysed for the economic region separately, so as to enable NERDA and the Wood sector Board to better monitor the results of proposed interventions coming from the CREDO projects second and third years. The Wood sector Board has already put forward this request to the project. Such data for the sector development in the NER will as well provide opportunities for follow-up of how the identified gaps will be “filled” during the next two to three years, as a result of the proposed Action Plan. The documents in the attached annexes 4 to 6 include parameters, which are suggested to be gathered for the wood-processing sector in the NER of BiH.

The shortcoming of BiH statistical data being produced in both administrative entities is an observation that the expected further development of the five economical regions will help to mitigate.

These are export and import data for different wooden raw material, wood and furniture products, and the wood-processing sector's (including furniture production) share of the total industry production in the region. In addition to the current data for 2008 it would be of great interest to analyse the situation in the pre-war period, if possible not only for the entire BiH, and from that level agree on a minimum target for the NER wood-processing sector to achieve in 2011. Numbers of employees are more difficult to analyse, as on the one hand CREDO has the objective to contribute to increased number of working places in the region. On the other hand, the wood-processing industry is supposed – not the least as a result of the proposed Action Plan for the sector - to rationalise its production and structure the production in a much better way than today, which will inevitably lead to a reduction of working places. Thus, it will be necessary to additionally follow investments in new production entities and, hopefully, merges of production capacities in the sector as a result of more efficient cooperation among the sector's enterprises.

4.1 GAP 1: Lack of cooperation in the wood industry in NE region

The identification process of the gaps, described above, focused on the mitigation of the causes for the **negative characteristics** of the wood-processing sector in the NER of BiH.

It is obvious that the sector in the NER is not organised well enough to represent the sector enterprises' common interests neither professionally, nor on the political arena. There are too much of individual interests appearing and, unfortunately, a lack of well-founded understanding for the values of having a strong joint interest association being able to provide sector support for development and common sector problems. Looking ahead on the growing needs for better marketing and international businesses' requirements such association would also enable a linkage to representation and networking with similar associations abroad. The excellent example provided on the study tour by the Latvian Forest Industry Federation with its seven wood sector associations will serve as a model and possible objective for the Wood sector Board.

The presently existing associations and chambers of commerce in the country's two entities seem not to correspond to the expectations of the industry's needs. Therefore, it has been proposed, in course of the CREDO project's life time, to develop the Board for the wood-processing industry to an Association for the sector in NER of BiH. The ongoing project will have the opportunity to provide the necessary human and financial resources during the difficult first years. One of many difficulties will be to find an appropriate solution for the great diversity of companies, out of which many small saw mills only focusing on the primary production, that today are operating in the sector.

There is also a need for a strategy to be developed for the wood-processing sector in the NER of BiH. That strategy will have to be harmonised with the strategy for the entire industry development in the Federation of BiH, which is currently under preparations.

Another challenge – among company leaders - will be to overcome the previous bad experiences of unsuccessful attempts to establish associations in the sector. The support from NERDA through CREDO will be of great value for this. Creation of ownership for the idea to further develop the Board among members of the Wood sector Board will be of crucial importance.

In the attached *Annex 9* the first Opportunity, as result of the proposed interventions to mitigate the causes for the GAP 1, has been described as follows:

Opportunity 1.1:

Strengthen the Wood Board as wood processing industry association for NE BiH during the course of CREDO that would be strengthened through CREDO to continue after CREDO.

Present situation (2008): No specific association for the wood-processing industry in NER of BiH, but a number of associations and chambers of commerce in the two country entities.

Future situation (2011) - objective: One well-functioning association for the wood-processing industry in NER of BiH developed at the expense of lower importance for other similar organisations on entity level.

During the interviews with the companies repeatedly, the present wooden raw material availability was raised as one main obstacle for company development. Additionally, it was obvious that the representatives of the sector industry felt that their viewpoints almost never were considered in discussions with the forestry, thus, the wooden raw material provider. They further expressed the lack of a joint understanding of the overall relations both with forestry representatives and with politicians. There is no forest policy covering the entire BiH, only for the two entities separately, which is a hampering factor for a national approach on forestry **and** forest industry issues. There is very little knowledge in the wood-processing sector on the outcomes of the recently accomplished international forestry development projects (e.g. the World Bank and the UNDP) in BiH. Furthermore, these projects' achievements in the implementation of sustainable forest management (SFM) and forest certification (Forest Stewardship Council, FSC) – pre-conditions for further supply chain certification (chain of custody) of the manufactured wooden products – seem to be completely unknown. This is also valid for the society's increasing demands for forested areas to be set aside for nature conservation and/or biodiversity reasons that are limiting the annual allowable cut in both entities compared with the pre-war times.

The present situation with very many recently registered small saw milling companies is a result of the authorities' attempts to legalise businesses developed during and immediately after the war, thus, a "heritage" from the consequences of the war. An urgently needed restructuring process resulting into fewer companies with merged capacities is expected to take place in coming years and should be supported by proposed measures.

The currently applied production processes in the wood-processing industry, mainly in the primary production, do not use the wood (logs) efficiently. Modern processes consume less wood, which is one alternative to match the decreasing wooden resources. One example is the introduction of the combined sawing and chipping technique allowing smaller top diameter logs to be sawn efficiently. The produced sawn goods after such investments will thanks to the following glue laminated and finger joining production processes still be used for similar final products.

The forestry side has asked for possibilities to introduce sawing techniques for short logs (1½ - 2 m) of broadleaved tree species, which today frequently are residuals of low quality from forest operations, so as to increase larger wood volumes for value added production.

The conclusion is that there is an immediate need for improvement of the relations between the wood-processing industry and the forestry sector and for encouragement of the wood sector representatives to strengthen their position in the society. This can be done among other things through presentations of best international practice to sector representatives and through roundtable discussions.

It seems logical that the Board for the Wood sector within CREDO should carry the main responsibility for bringing these activities forward; however, NERDA will have to provide the necessary financial and human support for the proposed measures.

The above findings led to the identification of the second Opportunity to mitigate the causes for GAP 1:

Opportunity 1.2:

Achieve a stronger position of the wood-processing industry in the relation to forestry and initiate discussions on better utilisation of wood as a national resource that should be used sustainably.

Present situation (2008) versus future situation (2011): Aside of the concrete indicators presented in *Annex 9*, intangible factors should be estimated. These can be systematically evaluations of achieved new agreements with the forestry or agreed joint statements and progress for establishing a common view on the national forest resource as provider of wood and work opportunities.

4.2 GAP 2: Human resources need development

The wood-processing sector is world wide traditionally a sector with a low level of higher formal education. It is from the origin of many small enterprises, starting with the primary production or other businesses (e.g. as frequently in BiH the trucking business), more based on entrepreneurial competences and self-taught persons without higher formal education. A consequence of this tradition is also that these enterprises do not employ higher skilled individuals. On the other hand today's more demanding work processes and businesses require higher competences and is a pre-condition for successful company development in the value chain based production. In particular, this is obvious for international marketing and modern, computerised production processes of new products. The enterprises working in the wood-processing sector in the NER of BiH are therefore no exemption from the overall situation in this sector in Europe; however, the understanding of the needs for more qualified personal and employees is relatively new among the BiH enterprises. Therefore, there is a GAP in skilled human resources capacities in the companies working in the NER of BiH.

The graphs in *Annex 7 and 8* are showing the distribution of the educational situation and qualifications among employees in the wood-processing companies (*Annex 7*) and furniture production (*Annex 8*), respectively, in the Federation of BiH, Croatia and Slovenia. For all three countries/entities there is a lack of employees with university education and highly qualified workers. It is recommended to follow the development of the human resources' capacity in companies of the sector in the NER of BiH during the coming years, so as to see the effect of the increased awareness of human resources development, also through envisaged training activities in the CREDO project.

In particular, there is a lack of knowledge on modern marketing and export in the companies, which will need further consideration. This fact has been stated by the Board for the wood-processing industry, which would like to see a strategy for knowledge increase. There is further a lack of experienced export managers in the region. Many small companies do not possess any appropriate marketing material. Presently, no joint presentation of the wood-processing and furniture industry in the NER of BiH is available. A number of accomplished international development projects have made presentations for the sector industry in different other geographical areas of BiH in which some of the region's companies appear. NERDA's experiences from production of similar brochures of high quality for the NER of BiH should be made available to the wood sector through the CREDO project.

Generally, increased networking among companies in the sector, with the objective to achieve joint benefits, would be advisable specifically for the development of export business. This process should be supported through the CREDO project.

Opportunity 2.1:

Increase competence and knowledge on marketing and export issues through a number of targeted trainings.

Opportunity 2.2:

Initiate cooperation, discussions between industry and education system representatives in order to meet the industry needs.

Present situation (2008): No joint export attempts among sector companies established; no jointly produced marketing material for the wood-processing and furniture production sector in the NER of BiH produced until now.

Future situation (2011) – objective: At least three trainings organised, joint appearance on a foreign fair suggested; analyse the current situation and organize a couple of round tables between industry and educational representatives in order to find best solutions.

Additionally and as a further indicator, the export development for the sector companies in the NER of BiH should be annually monitored. It would be favourable if that monitoring could be extended to cover even data on achieved new markets and business contacts. Before the war the export share from the wood-processing and furniture production sector in BiH was as high as 90 %, for which reason an export share of 80 % would be a realistic close objective. The previous export made Bosnian beech wood well recognised abroad and well-known for its high quality. Therefore, it is suggested to seriously discuss the value of re-calling the previous success factor with help of a common brand name “*Made of Bosnian beech*” in new marketing activities.

4.3 GAP 3: Poor or lack of knowledge on modern production requirements and strategic products among wood processing SMEs

The identified gaps in the sector are naturally all of importance to be mitigated by the proposed interventions. However, the lack of knowledge on modern production requirements and strategic products is probably the most hampering one for a soon and successful development of the enterprises in the sector. Improved production processes, right investments in modern facilities and replacement of outdated technology based on already available skills and experiences are the key for sector development. It is also a solution to increase the present low degree of wood utilisation (one of the sector characteristics).

The above mentioned large number of small production capacities in the sector can be regarded as a threat to the sector and not only as a weakness. Merged companies and/or production capacities will have better chances for a positive development in growth of production and gradually increasing profits through investment in modern production and implementation of strategic products.

Through higher efficiency and accuracy in new machineries and production technologies it will be easier to meet the consumer driven requirements in markets – currently mainly in export markets - on higher qualities, monitored through different certification schemes and standards. The EU pre-accession period will result into new legislation and regulations in almost all sectors of the economy, which will affect the conditions for industry production in many aspects. One of them is occupational health and work safety, which will force outdated technology to be replaced by safe and healthy processes. On the other hand, as a result of the EU accession process the access to the EU markets will gradually open. This is another driving force for implementation of modern production processes and products targeted for the European market. The EU pre-accession will after some years (probably in less than 5 years) open the borders and allow travels without visa that drastically will change the present situation with available and relatively cheap work force in BiH. In view of a new situation with a decreasing number of work forces, which have higher expectations on wages than today, it will be wise to soon invest in new technology.

Due to prevailing insecure business environment until today and historical tradition larger enterprises have a low degree of specialisation in their production processes. In today's gradually improving business society in the country this fact has to be regarded as a disadvantage instead of the previous market advantage. Specialisation on fewer products is in line with concentration on strategic products.

Opportunity 3.1:

Identification of strategic products for the whole sector.

Present situation (2008): A proposed survey will provide actual information on the current situation.

Future situation (2011) – objective: A number of new sector investments, based on accomplished pre-investment studies, registered and ongoing. Initiated cooperation between companies supported and documented in order to implement investment plans.

The proposed pre-investment studies could be of two kinds – for the smaller enterprises eager to develop into more value added products and for the larger companies seeing the necessity to develop further in the value chain and/or to concentrate on new products of higher values requiring higher investments. It is recommended to offer from the CREDO project pre-investment studies for three to four different strategic products for which the sector companies will be animated to participate at.

Opportunity 3.2:

Presentation of new technology and trends in wood industry, best practices.

Present situation (2008): Poor or lack of knowledge on modern production requirements and new technologies in the wood processing sector.

Future situation (2011) – objective: A proposed lectures and seminars and presentation of best practices will provide actual information and improve the situation in the sector.

4.4 GAP 4: No established institution for testing and certification of wood products

In today's BiH there is no test laboratory approved to perform tests of wood products according to the EU (CE) standards. The existing laboratories, such as the Institute for Construction Material in Tuzla (GIT), are allowed to test according to the Bas-standards for BiH (in case of GIT for wood beams and flooring wood material). In view of the pre-accession process and quickly approaching new market opportunities within the EU, the need for establishment of laboratories in BiH approved to perform tests among others on CE standards has been identified by several actors spread over the country. Attempts have been made to attract different sources (donors) for funding to support the establishment. It is known that except for GIT in Tuzla presently also the Economical Development Agency in Zenica (REZ) and the Mechanical faculty in Sarajevo University have projects with intentions to establish testing facilities. Based on a proposed feasibility study negotiations will be needed for reaching an acceptable solution in which several actors could join forces in one national institute divided on several places. One of them should be Tuzla, so as to have close access for companies situated in NER of BiH and for their promotion.

During the study tour to Latvia on purpose the Forest and Wood Products Research and Development Institute (MeKA) was visited. That example showed clearly the importance of a sector institute for the wood-processing industry's development of particular new and strategic products, but also for the access to a national organisation for testing of material for the European markets. MeKA is member of the European group of organisation for fire testing inspection and certification and accredited by the Latvian National Accreditation Bureau for testing of wood materials, products and furniture. It was established in 2004 and with support from EU structural funds (provided already during the EU accession phase). It is likely that a similar well-founded project proposal for the establishment of and investments (large investments in machinery and testing equipment needed) in a national institute in BiH would have good chances to attract part-funding from the EU structural funds, which now are available for BiH institutions.

Another very interesting fact with MeKA is the ownership situation. Aside of Latvian Forest Industry Federation and Latvian University of Agriculture, Wood-processing Department of the Forest Faculty, the Latvian State Forest management enterprise (LVM) is the third registered owner. This should be seen as an expression for the state forestry's responsibility to support a balanced utilisation of the national wealth, the forests. The second objective is to support the actors on the round wood market to achieve export incomes and profits, thereby providing them indirectly with good paying capacity for the domestic wood resources. To meet similar understanding in the BiH forestry sector would be an excellent outcome for proposed activities within GAP 1, Opportunity 1.2.

The Latvian institute offers services to companies in the sector and even provides applied research. It has been described as a “*search for how discoveries can be applied in best practice or practical work with producers to deal with problems that require a scientific solution.*” These services are valuable for financing the institute's running costs in addition to the formal tests.

Opportunity 4.1

Improve Quality assurance and certification in wood industry in NE region

Present situation (2008): Small number of companies applies quality assurance and certification.

Future situation (2011) – objective: Raise awareness among wood processing companies on the needs and benefits from the quality assurance and certification. Designing and presenting brochure on standardisation and certification in wood industry should improve situation in the sector.

Opportunity 4.2

Initiate the idea of national institute for wood testing with several specialised institutes (e.g. GIT for construction wood material) through linkages to simultaneous activities (e.g. REZ, Sarajevo University Mechanical faculty).

Present situation (2008): No national institute for wood testing.

Future situation (2011) – objective: One national institute established for different wood materials and furniture distributed on several places with testing facilities specialised on different materials – one of them preferably in Tuzla specialised on wood construction material.

5. ACTION PLAN

The preceding chapters of this Final Report serve as basis for the **Action Plan** with proposed measures that are presented in all details in the reports final annex, the **Annex 9**.

In the above GAP analysis the reasoning of proposed measures has been commented upon and further background explanations have been given. The presented Action Plan is the result of a close cooperation between local and international sector experts.

As the proposed Action Plan will be subject for further discussions – not the least with the Board for the wood-processing industry - and considerations during the remaining part of 2008, it has been agreed with NERDA not to include any detailed resource estimations.

Indicators, as source for verification of performed measure, are in the Action Plan shown separately on the row below the respective measure and in the column (quarter of year) for its envisaged presentation (light blue colour). In above GAP analysis additional indicators have been proposed for each of the opportunities identified.

For each measure one main responsible actor has been proposed. The Board for the Wood-processing industry has received quite a great responsibility for the success of proposed measures (red colour). NERDA is expected, through its staff members and appointed local and international experts, to provide human and financial resources, but will take the responsibility for initial steps and fully for some activities/measures.

With reference to Annex 9 and to given explanations in this chapter it is considered not necessary to further describe the proposed measures in writing.

6. RISKS AND ISSUES

The idea to establish the five economical regions in BiH, each with one development agency, is an appreciated step towards a future country not being divided into two entities. Particular in sectors of the economy like forestry and wood-processing industry, which inevitably will have to operate both in cantons of the Federation and in Republika Srpska, these circumstances are an administrative burden hampering the development and limiting the international competitiveness of the exporting companies. Unfortunately, during the lifetime of the CREDO project no larger improvements in this respect can be expected. However, all steps that are targeting for more unified legislations and regulations facilitating the business environment (between entities **and** among cantons), in particular concerning the wood raw material procurement conditions would support a successful realisation of the activities envisaged to be undertaken under GAP 1.

The proposed Association for the NER of BiH should as well be seen in the same perspective, thus, as a preparation for the new institutional situation. The intended regional association will be a helpful tool for solving “border-crossing” differences.

The Action Plan has allocated large responsibilities to the Board for the Wood-processing industry in NER of BiH. This is in line with the ideas of CREDO. However, it implies that the Board is prepared to take the responsibility to the proposed extent. The Board is expected to take ownership for the proposed measures. Therefore, it will be of greatest importance for a successful outcome of the project, that NERDA will find a supportive close dialogue with the Board, so as to encourage its willingness and commitment to the project. NERDA’s provision of financial and human resources to the proposed measures will be crucial for the Board and its commitment. If regarded needed, additional workshop(s) with the Board members will have to be organised, so as to further stimulate their work and individual inputs. Replacement of single Board members might be a further means for mitigating lack of ownership.

Having a strong and well-motivated Board – gradually acting as the leadership for an association - will be the best way to attract sector companies to show interest in and actively participate in project measures. This also means building confidence among partners. General experiences show that the involvement of the “right” partners in the very first activity of a project always is of outmost importance for the project success and further steps forward in following activities. “Right” partners are motivated and ready to engage and to convey achieved results to colleagues. They are the true messengers of the project and the proof for usefulness of participation.