



## ***Darwin Initiative for the Survival of Species***

### ***Annual Report***

<http://www.darwin.gov.uk>

#### **1. Darwin Project Information**

Project Ref. Number	162/13/020
Project Title	Conservation of Eastern European Medicinal Plants: <i>Arnica montana</i> in Romania
Country(ies)	Romania
UK Contractor	WWF-UK
Partner Organisation(s)	WWF-DCP, USAMV
Darwin Grant Value	£ 199,945
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Reporting period (1 Apr 200x to 31 Mar 200y) and report number (1,2,3..)	1 April 2005 to 31 March 2006, report no. 2
Project website	<a href="http://www.arnica-montana.ro">www.arnica-montana.ro</a>
Author(s), date	Dr Wolfgang Kathe, 15 April 2006

## 2. Project Background

Arnica (*Arnica montana*) is a traditional medicinal plant, widely used throughout Europe and North America. The dried flower heads and occasionally roots are used to prepare tinctures and ointments. Arnica is anti-inflammatory, counter-irritant and mostly applied to heal wounds, bruises and burns.

The plant is not native to the UK, but occurs in most continental European countries. Its favoured habitat are nutrient (nitrogen, in particular) poor, acidic mountain meadows. In most West and Central European countries, Arnica has disappeared from many parts of its original range within the last 30 years, due to habitat destruction or conversion and over-harvesting. It is still collected in small quantities in France, Germany, Switzerland and Austria, but most raw material collected from wild populations comes from Spain and Romania, where several sound populations exist to date.

The rarity of Arnica is reflected in red lists and legislation. IUCN - The World Conservation Union list Arnica as 'Critically endangered' (CR ; IUCN red list category) in many range countries. The European Union lists the species in Annex V of the EC Directive 92/43 (Habitats Directive) and in Annex D of the Commission Regulation (EC) No. 338/97. This law is the EU implementation of CITES; its Annex D is an additional component (a kind of monitoring list, compare Annex B of this report), listing a large number of non-CITES species which may become subject to trade restrictions if populations decline further.

According to official trade statistics, Romania exported about 33.5 tonnes of Arnica dried flowers to the European Union between 1997 and 2004, which is an annual average of about 4 tonnes (see Annex C of this report). In reality, the volumes were most probably higher. It is safe to say that Romania supplies over 50% of the Arnica raw material from wild collection traded in Europe. However, the share of cultivated Arnica (cultivation mostly in France and Germany) has increased considerably within the last 5 years.

The wider project area in the Apuseni Mountains in Transylvania / Romania is one of the prime source areas for wild-crafted Arnica in Romania. The annual harvest in the wider area may provide up to 1 tonne of dried Arnica flower heads, which accounts for a significant portion of the European trade. Arnica collection provides an important additional income for many families in the mountain farming communities around Biharia / Iarba Rea and on the Plateau of Ghețari, where the project centre is located. Collectors are mostly women and children, but indirectly, whole families and also farmers of non-collecting families are involved for the mountain meadows need extensive care (regular haying; no application of fertilisers) for Arnica populations to thrive. Arnica is a flagship species for this habitat type; its conservation and sustainable use contributes significantly to the conservation of many other plant and animal species (see also Annex I).

This project aims at safeguarding the biodiversity of mountain meadows in the area by establishing a model of sustainable use of and trade in *Arnica montana*, which – at the same time – addresses habitat conservation, local livelihoods and the maintenance of traditional mountain farming. If successful, this model can easily be scaled up and replicated elsewhere.

The main components of the project are

- Research on biological sustainability of Arnica collection
- Evaluation of the cultural & socio-economic context of management
- Study of the Arnica trade chain
- Develop a model for sustainable harvesting practice and train harvesters
- Investigating incentive systems for farmers to maintain their traditional management of Arnica meadows without fertilization
- Build capacity in value adding through local Arnica drying and direct sale to achieve higher returns for harvesters and benefits for farmers

## **Project Purpose and Outputs**

### ***Purpose***

To develop a model for the sustainable production and trade of *Arnica montana* resulting in benefits for biodiversity and livelihoods; the principles of which can be used to inform the development of conservation approaches and methodologies for other endangered medicinal and aromatic plant (MAP) species and their habitats.

### ***Outputs***

- Resource management and Trading Association (RMTA) founded at Gârda de Sus (GdS)
- Arnica management plan written, accepted and implemented
- Harvesters & farmers trained in sustainable harvest, habitat management & drying.
- RMTA/company agreement based on sustainable sourcing guidelines
- Awareness raised on benefits of sustainable harvest of MAP among harvesters, farmers, government agencies and academics

Two modifications have been made to the log-frame:

- 1) The foundation of a RMTA, as originally planned, proved to be impossible due to legal and structural barriers. Instead, the decision was made to establish two distinct management structures:
  - a) A local NGO / association called ECOFLORA;
  - b) A trade company (Ltd) called ECOHERBA
- 2) No sourcing guidelines will be developed. Instead, harvester guidelines and a statute for the NGO will be developed to guarantee sustainable sourcing and trade practice (DARWIN was informed by Susanne Schmitt in October 2005 and agreed to this change).

## **3. Progress**

### ***Brief history of the project***

Southeast Europe is one of the most important source regions for medicinal plants for the European MAP market. Many species are still wild collected in the Balkans. Wild harvesting, if carried out in a sustainable way, provides a valuable incentive for habitat conservation through direct economic benefits from natural and semi-natural ecosystems. *Arnica montana* is a particularly interesting species, because its harvesting can only be economically viable if traditional, extensive mountain farming systems are maintained. The central idea behind the project is the development of a model project that tries to demonstrate how MAPs can be sustainably managed and ethically traded in Southeast Europe, with benefits for both rural livelihoods and biodiversity. Romania, and the project area in particular, seemed a promising place for establishing a demonstration project on sustainable Arnica harvest and trade because it is one of the two main source countries for Arnica and the country is in a period of rapid socio-economic development due to its re-orientation towards a market driven economy and its access to the EU in 2007. Both processes are perceived as an economic chance for the country but, at the same time, pose considerable threats to biodiversity and to traditional agricultural systems and rural livelihoods.

## **Summary of progress**

The second year of project implementation was characterised by a strong focus on local capacity building, laying the foundation for the development of a sustainable business structure for Arnica management and trade, in-depth market analysis and the development of trade links. As in the first year, major constraints were the lack of understanding of participatory approaches in project implementation, which is only gradually developing, and difficulties in communication, budget- and time-planning. Major successes are considerable progress in local capacity building, successful mediation between the local community and the management of the Apuseni Natural Park, the foundation of the company ECOHERBA and the establishment of a promising contact with Weleda AG, a large and ethical potential buyer of dried Arnica from the project (see also 'outputs without output number').

Based on the initiative of the project leader, Susanne Schmitt (SFS), a new element included in the project was the development of a business plan by a team of students (MBA team) from the Said Business School (SBS) in Oxford, UK. The project had the opportunity to profit from this professionally supervised pro-bono student consultancy of 5 highly motivated and qualified young experts in social entrepreneurship (see also project outputs 14A and 21).

**Output number 2: Attain masters.** One student from Babeş Bolyai University (UBB) in Cluj, Razvan Popa (RP), has successfully completed his master thesis in early 2006. The topic of his thesis was the phytophage-complex on *Arnica montana* in the project area. He analysed the most important families of insects and arachnids living or feeding on Arnica flowers or being directly associated with Arnica. As pest infestation can be a problem for the quality of Arnica flower heads in other source regions, RPs research was important for the project and for potential buyers of Arnica.

The second master student, Michael Klemens (MK), has developed a concept for his masters and will complete the thesis in summer 2006. Based on the results of his diploma and on data already obtained during the 2005 Arnica season (about 400 interviews), MK will analyse the potential Arnica demand and consumer behaviour of tourists in the project area, which is an important factor in local marketing of value added products and product diversification.

The project officer, Barbara Michler (BM), and the supervisors of the master theses, Dr Tamaş, Dr Coldea, and Dr. Paina, provided very helpful support to RP and MK. Both master students made good progress in improving their conceptual thinking and working, their communication and team work skills and in taking over more responsibilities within the project.

**Output number 5: Fieldwork and analysis.** The project has started with training 4 young professionals (Florin Pacurar (FP), Horatiu Popa (HP), RP and MK) in 2004. Meanwhile 3 additional young professionals have joined the project: Mona Cosma (MC), Adriana Morea (AM), and Bogdan Pelger (BP). BP has replaced Valentin Dumitrescu, who worked as interim IT specialist between October 2004 and February 2006, and will mainly work in the office and be less actively involved in field work. MC and AM started working for the project during the 2005 field season and officially became team members in March 2006 (part-time). MC is an agronomy student at USAMV and was trained by BM in buying fresh Arnica flower heads from trained harvesters in 2005; AM is an agronomy engineer student at USAMV and was trained in Arnica drying and data management by BM in 2005 (see also 2005 half-year report to DARWIN).

The main tasks in field work and analysis were:

FP: Local project co-ordination; communication with the local population in the project area and with authorities

HP: completion of inventory and continuous mapping of Arnica meadows; contact

with Apuseni Natural Park; compilation of first draft of landowner list

RP: population survey of Arnica in the project area; assistance in the organization of local events; assistance in developing Ltd/NGO; research on certification possibilities for the operation (organic wild-crafting)

MK: interviews with collectors, local traders and companies; assistance in the organization of local events; assistance in buying fresh Arnica from harvesters; assistance in developing sheets for documentation of Arnica purchase / sale

MC: running the buying point for Arnica during the harvesting period

AM: assisting BM in Arnica drying and data management

All local team members were supported by BM in the field work. Data analysis has been mainly carried out by BM.

In addition, about 40 students from USAMV were employed as casual helpers during the peak field season and received training in Arnica monitoring, meadow management and ecology.

Dr Paul Jepson, an expert from Oxford, conducted a four-days training course in Social Survey Techniques in the project area between 25 and 28 October 2005. All local project team members and several local researchers participated in the course.

The training of the young professionals was overall successful. The development of a team spirit and mutual assistance between the local team members was very positive. Inter-disciplinary work improved during the reporting period. Communication between the project officer and the local project team was at times still difficult and occasionally hampered efforts to establish participatory project planning and implementation on the level of the project team. Strengthening the local buy in and developing a participatory approach with the local population in the project area, however, made good progress. Especially Dana Bâte, supported by Varcui Marin, the mayor of the community of Gârda-de-Sus, took over more responsibility and worked towards establishing the project within the local community.

### **Project Output 6A: Training & Sensitisation**

The successful sensitization of the local population during the 2004 field season proved to be an important baseline for the 2005 harvester training. Training was performed in close cooperation with the heads and the teachers of the schools in the community. 3 training events were carried out in 2005, reaching 91 children and 45 adults in the hamlets of Ghețari, Ocoale, Biharia and Sucești. An additional training side-event was organised at the annual local festival 'Day of Ghețari', with about 50 children participating.

The continuity of the two-years training resulted in a considerable quality improvement of the Arnica material collected and delivered at the collection point. In 2005, only about 15% of the material had to be refused for quality reasons.

FP's continuous work in confidence building with the local community has been of vital importance for the project. He visits the community regularly throughout the year and has meanwhile achieved a good reputation for the project within the community and support from authorities and many farmers and their families alike. The mayor of Gârda-de-Sus is actively supporting the project activities and has become an important local advisor. He is highly respected in the community, and particularly influential in those hamlets (Ghețari and Ocoale) around which the main project activities are centred.

**Project Output 8: Travel.** The project officer, BM, is spending more time in the field than originally intended. During the reporting period, she spent about 9 weeks in the project area and in Cluj, to provide on-the-ground support and training. The project leader (Susanne Schmitt) spent about 2 weeks in the project area, her maternity cover (Wolfgang Kathe; between January and June 2006) spent 1 week in Cluj (before, during and after the annual planning workshop in March 2006).

### **Project Output 9: Arnica management plan.**

The management plan will be written after the completion of essential elements, such as the business plan for the operation (completion planned for early May 2006), the harvesting manual (available since March 2006) and the drying manual (to be completed in May 2006). It is planned to complete the management plan until October 2006.

**Project output 11B: 1 peer reviewed-paper.** Two peer-reviewed papers were published during the reporting period:

A paper entitled: '*Arnica montana*, an endangered species and a traditional medicinal plant: the biodiversity and productivity of its typical grassland habitats' has been published by BM, Ioan Rotar, FP and Andrei Stoie in the proceeding of the 13<sup>th</sup> International Symposium of European Grassland Federation. (see Annex I)

A paper entitled: 'Sustainable sourcing of *Arnica montana* in the Apuseni Mountains (Romania): A field project' has been published by WK in 'Medicinal Plant Conservation' (Volume 11: 27-31, Bonn, August 2005). (see Annex J)

**Project Output 14A: Workshop organization.** The 2<sup>nd</sup> annual review and planning workshop was organised in Cluj in March 2006.

The main objectives of the workshop were to (1) review the second project year and analyse its major successes and failures, (2) find solutions for unresolved issues, and (3) develop the work-plan for the final project year.

The workshop was generally perceived as an effective meeting which provided room for open, constructive and target-oriented discussions; the solutions found and decisions made were agreed by all project team members (see Annex A (work-plan) and B (minutes)). To provide expertise on specific technical issues, several external experts were invited to join parts of the meeting; among these were Ioan Drocas (professor for mechanisation, USAMV), Augustin Goia (project advisor, ethnographical museum), Marin Varciu (mayor of Garda-de-Sus), Sergiu Potra (consultant lawyer), Ioan Rotar (project advisor, agronomy professor at USAMV) and Tamaş Viorel (civil engineer).

A number of important decisions were made at the workshop:

- 1) Building of dryer in May 2006. Options to build one or two dryers were discussed. The original planning envisaged the construction of 2 dryers (one in Gheţari, one on the other side of the Arieş Valley); one dryer would be funded by WWF-UK, the other one by the company Weleda, who agreed to provide the money for one dryer as an interest-free loan to be paid back in Arnica raw material over a period of two years. The project manager Maria Mihul (MM) suggested building only one dryer in 2006 and using the money from Weleda to pay the harvesters; the return from Arnica sales to Weleda in autumn could be used to build the second dryer. BM suggested increasing the size and therefore the capacity of the dryer; that way, it could be possible to dry the required amount (5-6 tonnes of fresh Arnica flower heads; if this amount can be collected sustainably in the area) with one dryer. The final decision will be made in late April after the completion of the plans for the dryer and further negotiations with Weleda.
- 2) Legality of the dryer. A major issue was how legal requirements relating to the dryer could be fulfilled. This includes contacting authorised companies, submitting construction plans, developing the dossier on obtaining the city planning certificate; applying for construction authorization at the county council (Alba); approbations from environmental authority, fire department, civil defence department and public health department. The only realistic way to proceed is to apply for all approbations parallel to construction, because building the dryer can't be started before early May (due to snow in the project area) and needs to be finished by early June.

3) Establishment of ethical business: Due to the legal situation, it was not possible to develop an RMTA as planned; instead, a company has been founded in February 2006 (ECOHERBA), and an NGO / association will be founded in May / June 2006 (ECOFLOA) – for details compare Annex D. Parallel foundation was not possible, because only the Ltd can apply for collection permits (the application had to be sent in before March 2006) and it takes longer to register NGOs than private companies. The Ltd will purchase Arnica raw material, dry, pack and trade it. The NGO will be responsible for the sustainability of Arnica harvesting and meadow management, provide training and rent the dryer(s) to the Ltd. One of the issues that still need to be decided upon is the ownership of the dryer. Originally it was planned that the NGO should own the dryer. During the development of the business plan by the MBA team, concern was raised, that the NGO holds no majority (only 40%) in the Ltd and that the project / WWF would give the main drier(s) to the NGO and its directors for free, i.e. without any possibility of control that would ensure that ethical guidelines are adhered to. It was recommended to include another level of control. This could be achieved, if an organisation with a vested interest in ethical sourcing was the owner of the dryer, such as the Apuseni Natural Park. A decision will need to be made by the project team until early May 2006.

4) Team work. Whereas the project team in Cluj has developed a strong sense of team work during the last year and are supporting each other where possible, the conflict between the project officer and the local project team erupted again during autumn 2005 and winter 2005/2006. This escalated in the announcement of the local project co-ordinator to resign from the project by the end of March 2006 (see also section 'difficulties' below). This is a critical conflict within the project and was therefore discussed in detail at the annual planning meeting. A solution could be found that was agreed upon by all parties (see decisions at the annual planning meeting; Annex B), and the local project co-ordinator agreed to stay with the project, under the condition that the decisions are respected by everyone. While it may be an illusion to suppose that the conflict has been solved, it is hoped that it is at least soothed so that it does not hamper project progress during the important period May-July 2006. Over the long term, and in particular for the project follow-up, another personnel and management structure will need to be found in order to make the project sustainable.

**Project output 14B: 1 International conference.** Three international conference presentations were given during the reporting period:

- 1) SFS and MK: Presentation on the project and the supply chain research; side event of the International Botanical Congress (IBC) entitled 'Sustainable supply chain management for medicinal and aromatic plants', 21 – 22 July 2005 in Vienna, Austria.
- 2) FP and Ioan Rotar: Presentation of a poster based on the paper '*Arnica montana*, an endangered species and a traditional medicinal plant: the biodiversity and productivity of its typical grassland habitats'; 13<sup>th</sup> International Occasional Symposium of the European Grassland Federation (EGF), 'Integrating efficient grassland farming and biodiversity', 29-31 August 2005, Tartu, Estonia.
- 3) BM: Presentation of the Arnica project at the 35th Annual Conference of the Ecological Society of Germany, Switzerland and Austria (GfÖ); 19 - 23 September 2005, Regensburg, Germany.

**Project outputs 15 A; 15C: Press releases in host country and in UK.** After a first sensitization of the general public through press releases, TV and radio broadcasts in Romania, the UK, Germany and Switzerland in year 1 of the project, year 2 focused on getting the project established on the ground. No further active press work was pursued, because this will only be effective after the first tangible results of the project are available (running business, successful sustainable harvesting,

international trade, meadow management and conservation), i.e. during and after this field season. Press events are planned for summer and autumn 2006.

**Project Output 20: Physical outputs: Plant drying house.** After the construction of a demonstration plant drying house in the first project year (2004), 2005 mainly served to complete the drying experiments and obtain enough data to design (an) appropriate drying house(s) that fulfil(s) the necessary requirements in terms of product quality and capacity (see Annex E).

Through the help of the MBA team (see output 21), the project got valuable help in designing the drying house by Chris Medland, Building Design Partnership, London and Manchester. He worked together with BM to develop complete plans for a drying house which would fulfil the technical requirements. The final design will be available in late April 2006 and will then need to be checked against local legal requirements. The current plan is based on a design for one larger dryer, which would be located near the project centre in Ghețari and provide enough capacity to fulfil the envisaged business contract with Weleda. The drying house will need to be built within a very short time period in spring 2006, between snowmelt and the Arnica season.

**Project Output 21: Organisation establishment (RMTA).** As detailed above, plans to establish an RMTA had to be adapted to the local situation and legal requirements. The project team and the RMTA working group (including experts and community representatives) developed an alternative solution. Instead of the RMTA, two organisations are in the process of being established: a company (Ltd) called ECOHERBA, which has been founded in February 2006, and an association (NGO), which will be established in May or June 2006.

The project leader, Susanne Schmitt, facilitated contact to the Said Business School (SBS) in Oxford in autumn 2005. SBS and its students are experts in social entrepreneurship. SBS and WWF made the agreement that a team of 5 young business students who are completing their graduation in 2006 develops a draft business plan for the project for free. Only travel and subsistence costs of the MBA team during their visit to the project area (in January 2006) had to be paid by the project. The draft business plan will then be look at by a local business expert, professor Dan Căndea, to adapt it to the local situation and realities. The results of the research on the Arnica supply chain in Romania by MK (see Annex H) and the trade and market study carried out by Dagmar Lange (see Annex C) will also be considered in the draft business plan. It will be available in late April 2006.

#### **Outputs with no output number: At least one company / RMTA trade agreement for Arnica**

Planned for completion by January 2007, this output will most likely be achieved earlier, because of its vital importance to the long term viability and sustainability for the project. In 2005, BM has facilitated contact between the Swiss / German company Weleda AG and the Arnica project. Weleda is a natural cosmetics and herbal remedies producer with an anthroposophic background and ethical company guidelines. BM met Michael Straub from Weleda several times during 2005. He also visited the project area in early July 2005 and showed keen interest in buying high-quality dried Arnica raw material and in developing a trade partnership with the project. Several project members (BM, MM, FP, MK) and the mayor and teacher from Gârda visited Weleda during the Weleda days in summer 2005.

According to the latest information, Weleda would want to buy up to 1 tonne of high quality dried Arnica flower heads annually. After bad experience with a Romanian trader in 2005, the project would be responsible for the organisation of the raw material transport to Germany. Weleda is offering a loan of up to 10,000 Euro to finance part of the drying facilities; the loan would be paid back over a period of two years through reducing the price paid for the raw material (interest-free). It is hoped

that a long-term agreement between Weleda and Ecoherba can be signed in May 2006. Although this would be very important step in working towards project sustainability, it will be equally important to establish other trade contacts in the following years.

### ***Significant difficulties***

Two significant difficulties have been identified within the project:

#### I. Communication difficulties

In the first annual report, the communication difficulties within the project were summed up as follows:

1) a lack of common understanding of the objectives of the project and the various responsibilities of team members, 2) different motivational interests of team members, 3) personality conflicts, 4) overly dominant hierarchic structures within the project team, and 5) below-average communication skills of some team members.

Re-assessing the development of the project communication towards the end of year 2, some of the communication difficulties have been solved, whereas others are still evident.

1) A common understanding of the objectives of the project and individual responsibilities has been partly achieved. However, due to time constraints, the project manager (MM) is not always able to provide sufficient management guidance to the project. This is over-compensated by the project officer (BM), who tries to micro-manage the project from abroad, resulting in conflicts between the project officer and the local project team in Cluj. The conflicts are being kept below the surface for a while but re-surface in periodical eruptions. One of these eruptions was the public announcement of the local project co-ordinator to leave the project by the end of March 2006. In his announcement, he listed several reasons for his decision, among these continuous changes to the work-plan, unrealistic expectations in terms of working time (no free weekends, no respect for holidays) and a lack of trust from the project officer. When talking to both BM and FP, it became clear that there was no intentional mistrust on behalf of BM, but her level of micro-management (e.g. telephone calls several times a day, detailed time planning by BM when FP should go to the field and how to arrange his day) and exclusion from important communication (e.g. the communication between BM and Weleda was only bilateral; BM had not allowed any other project team member to get in e-mail or phone contact with Weleda until recently) were perceived as a lack of trust due to the extent of supervision. This was re-addressed at the annual planning meeting, with the aim to strengthen the position of the local project coordinator and his and the team's authority in the decision-making process. Some positive results have been achieved for the project team in Cluj has started to set clearer boundaries and to improve their own time-management.

2) The motivational interests of team members are still different, but this is no obstacle in the development of the project.

3) Personality conflicts have not been solved (as detailed above) and it is unlikely that they will be solved within the lifetime of the project. However, I am optimistic that the common aim to implement the project successfully is sufficient motivation for everybody to stick the personality conflicts out for the final year.

4) The local project team has improved its performance, above all its team work and spirit, considerably. They support each other and managed to overcome many elements of the original, hierarchical way of thinking and organising.

5) Communication skills (above all in writing) are still diverse, especially on the management level of the project. Improvement will need further, continuous efforts from all project members.

## II Difficulties in structuring the business side of the project

The new structure of the business side of the project (local Ltd and local NGO) required the development of a new concept on how to guarantee that the business established will be ethical and maintain its focus on the conservation of Arnica habitats and improving local livelihoods over the long term. It has been agreed that the NGO should own the technical facilities (the dryer in particular) and be responsible for the sustainability of harvest and trade, but the problem of ownership has not been fully resolved. It may become necessary to establish a mechanism which allows for external control of the way of operation to avoid a potential dominance of local business interests over the conservation of the Arnica habitats. One way to establish such a control mechanism is that the ownership of the dryer is not directly associated with the NGO but an external person or institution which rents the dryer (through a long-term loan) to the NGO, provided that the dryer is used for the designated purpose and that the operation continues to benefit Arnica and habitat conservation. The Apuseni Natural Park could be such an external institution, because they have a vested interest in conservation and at the same time know the area and local conditions well enough to exert an effective control function. A decision on the ownership of the dryer will be made in early May 2006.

### ***Changes to design***

The design of the project has not been changed fundamentally, but two modifications have been made to the log-frame:

- 1) The foundation of an RMTA (output 21) could not be realised as planned. According to the Romanian law, an association / NGO is not allowed to trade. Therefore, the decision was made to establish two distinct Arnica (and possibly later NTFP) management structures:
  - a) A local NGO called ECOFLORA;
  - b) A trade company (Ltd) called ECOHERBA
- 2) No sourcing guidelines will be developed (DARWIN was informed by Susanne Schmitt in October 2005 and agreed to this change). Instead, harvester guidelines and a statute for the NGO will be developed to guarantee sustainable sourcing and trade practice.

Staff changes: Valentin Dumitrescu left the project in late March 2006 for personal reasons. He has been replaced by Bogdan Pelger, who will continue Valentin's IT work. Ioan Rotar agreed that the two agronomy students, MC and AM, who work for his institute, can join the project part-time. Both were already helping the project during the 2005 field season to run the collection and buying point for Arnica and assisted in operating the dryer. As this year's work load will be higher than in 2005 (a good Arnica harvest provided), their help in the field will be important, because they have already gained experience in the previous year and were very motivated. WK has again temporarily replaced SFS (on maternity leave) as project leader between January and June 2006.

### ***Workplan for year 3***

The work-plan for April 2006 to March 2007 is attached (Annex A).

## 5. Actions taken in response to previous reviews (if applicable)

DARWIN's review of the annual report 1 (1 April 2004 – 31 March 2005) raised a number of questions and issues which were addressed in an e-mail reply by the project leader SFS and the half-year report sent by SFS in October 2005.

This section will focus only on those issues raised in the review which directly or indirectly asked for actions to be taken in the implementation of the project.

- 1) Concern raised that the problems identified with personalities and collaboration may not have been totally solved and could possibly resurface later in the project (page 1): as detailed above, the past 6 months proved that there were good reasons for this concern. Actions taken: strengthening the position of the local project team; increasing the responsibility of the local project co-ordinator; calling all parties for immediate clarification of unclear or unresolved issues; improving on time management and developing a more realistic work-planning. Personal remark: it seems to be unrealistic to expect that these conflicts be entirely solved within the lifetime of this project. The best case scenario is that they serve as an unpredicted element of training and capacity building in communication for the local project team and that the motivation to make this project successful is stronger than the impact of conflicts and personality clashes. There are some encouraging signals such as FP's agreement to continue his work in the team and a relatively strong local team spirit. The worst case scenario is that a communication block occurs and either the project officer or one or several local team members decide to leave the project. This risk can't be excluded, but at the moment it is unlikely to happen.
- 2) Questions related to the status of Arnica collection within the community (page 1): Arnica collection is a semi-traditional activity in the community, i.e. it does not spring from traditional knowledge (using Arnica for primary health care, e.g., has no tradition in the area), but can be interpreted as an activity for additional income generation. It is no marginal activity, because it can account for a considerable portion of the legal income of the families. Many families earn most of their income from – largely illegal – logging activities. Owing to the progressive destruction of the forests in the region the awareness of the problem is increasing within the local population. However, this will not have a substantive effect on changing the behaviour as long as many families in the area don't manage to escape poverty. Arnica won't offer a solution, but it can trigger an improvement of livelihoods if combined with other initiatives. This includes the sustainable harvesting of other NTFPs such as mushrooms (including value adding, e.g. through cutting and drying), and tourism. Besides famous sights such as the ice cave, Arnica meadows are an attractive and valuable 'good' that can be sold to hiking tourists. Their number has been increasing in the last couple of years and it is likely to increase further after Romania's access to the EU. Trading is, as mentioned in the review, a male dominated activity, but this is not exclusive. Many parts of the Romanian society, in particular in rural areas, are still rather patriarchal and hierarchical. However, this is changing. For example, the head of the Ltd is Dana Bâte, a young woman from the community. On the other hand, a collectors survey showed that also men collect Arnica, although fewer than women, because most male members of the community are off to the summer pastures at Calineasa during the Arnica harvesting period (see Annex G).
- 3) Area covered and TOT (page 1): The project covers the entire area of the community of Gârda-de-Sus. If only one dryer is built, an additional collection point will have to be established on the other side of the Arieş Valley. In the case of this project, the TOT approach is slightly different from other projects, where a more formalised method can be chosen. The majority of collectors

are children, mostly boys (see Annex G). The easiest way to train them is through events at the school and in the field. Most children in the hamlets where Arnica is collected can be reached that way, and they spread word to others, mostly within their families. About 140 collectors have been trained that way. Formalised training through trainers wouldn't reach the main target group. In this region Arnica is almost exclusively collected by local residents. Collection by migrating workers is virtually unknown. After completion of the landowner survey, the landowners / farmers will receive training in Arnica meadow management in 2006.

- 4) Arnica ecology (page 2): In order to maintain a high level of Arnica density (which is necessary to make its harvesting economically viable without harming the population), traditional extensive mountain farming needs to be encouraged. This will be an essential part of the farmers training in 2006. Extensive farming must take care that the livestock on the meadows does not exceed the capacity of the meadows, in particular as Arnica has no high tolerance of N-fertilization. On the other hand, regular grazing and haying (after the Arnica flowering season) is important to avoid high grass and, over the long term, transformation to scrubland. The results of the 2005 Arnica monitoring (including satellite image, habitat size, population densities and flowering rates) have been compiled by BM and are attached (Annex F).
- 5) Exit strategy (page 3): The main local expectation in the project is achieve a higher income for Arnica harvesting / a higher price in trade. In the eyes of the local population this will be the most crucial question and decide on success or failure of the project. As with almost any business, it is unrealistic to expect that it will be profitable and financially sustainable from the first year. However, the system of value adding and producing a high quality product and the contacts established during the reporting period increase the likelihood of project success, if ways can be found to secure continuity and follow-up funds during the transition period between establishment and financial sustainability. The question of ownership of the dryer is still open. It is clear that the Ltd will not be the owner of the equipment, but will need to hire it from the association. No decision has been made if the primary owner will be the NGO or an external non-profit organisation such as the park. Construction will be funded by WWF-UK and most likely in parts also by Weleda. Running costs will need to be covered through the income from the sale of Arnica and in future hopefully also other products. Collectors, like all other stakeholders including project members, can become members of the NGO. It is not yet clear who will be responsible to oversee implementation of the conservation management plans. On a first level, this will be done by the NGO, which is responsible for training and conservation measures, among other tasks. To some extent, external control may be beneficial. It is still in discussion how such control could look like without interfering too much with the local management. Most likely, this will be achieved through a combination of several elements: long-term loan of the drying facility coupled with adherence to the management plan, in particular to sustainable collection practices; organic (potentially in combination with ISSC-MAP) certification by a reliable and experienced certification body; long-term active involvement of project team members from Cluj in the NGO.

## **6. Partnerships**

During the first two years, the project has developed a number of important and reliable partnerships.

USAMV provides space for the project office in Cluj, meeting rooms and accommodation for workshop participants when they are in Cluj. Professor Ioan

Rotar, the Head of the Department of Fodder Production and Conservation at USAMV is an advisor to the project and has facilitated contacts with other university professors in Cluj and government officials.

Local partnerships with officials in the community of Gârda-de-Sus are of vital importance for the project. The project team in Cluj, especially FP, succeeded in developing an atmosphere of mutual confidence and establishing a long-term partnership with Marin Vârciu, the mayor of Gârda, the school director Mr Stefanut, the local physician Mr Ciubutorescu and others. In addition, Dr Augustin Goia, an expert in ethnography from the Ethnographic Museum in Cluj, is a project partner and advisor. He is well known and respected in the community, because he has been working there for many years.

On university level, good cooperation has been established with Dr Gheorghe Coldea, Director of the Institute of Biological Research, and Dr Dan Munteanu, President of the Commission for Natural Monuments, Academy of Sciences. Dr Coldea is responsible for issuing collection permits for Arnica and he has also supported RP during his work on the master thesis.

Cooperation and partnership with the Apuseni Natural Park has been intensified in 2005. The project successfully mediated between the local community and the park administration; during the last 3 years, the park has been perceived as a threat by the local community, fearing that restrictive conservation measures will have a negative impact on the community's economy. This has started to change during 2005. The number of people who see opportunities for community development through the park (promotion of tourism; potential development of a regional branding for regional products) has increased, which is very positive for the project and its long-term perspective. In 2005, several meetings of project team members with the park director, Alin Moş, and the park administration were organised. The park will include the Arnica management in the park management plan. FP and Andrei Stoie carried out a number of field studies with park staff. FP and Marin Varcu were invited by the park administration to participate in a park stakeholder meeting and a visit to a number of nature parks in Austria.

BM has facilitated contact between the Arnica project and the Swiss / German company Weleda AG, which could be a potential buyer of dried, high-quality Arnica. This could develop into a very important partnership for the project (see also section 3, outputs without output no.). Weleda is a world-wide operating, ethical company with a high reputation for its active support of ecologically, socially, culturally and economically sustainable raw material sourcing practices (for details about the company see also [www.weleda.com](http://www.weleda.com)).

The project leader SFS and interim project leader WK facilitated contact between the Arnica project and WWF Germany, TRAFFIC, IUCN and the German Agency for Nature Conservation, which are jointly developing an International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP). The Arnica project could be a potential pilot implementation project for the implementation of the standard, which would be a long-term mechanism to provide technical expertise to the operation and assist the sustainability of Arnica (and probably other NTFPs) sourcing. WWF and IUCN have invited the project team member Horatiu Popa (HP) to present the Arnica project and its potential for becoming a pilot project at the upcoming IFOAM conference on organic wild harvesting in Teslic, Bosnia and Herzegovina, in early May 2006. At the side event, which focuses on ISSC-MAP and its implementation, a meeting of WWF, IUCN, HP, Michael Straub (Weleda), a representative of the certifier IMO and WK will be organised to evaluate the options for future cooperation with regard to the Arnica project.

## 7. Impact and Sustainability

After two years, the project has already achieved considerable regional impact. Arnica inventorying has been completed and parts of the local population have been included and trained in continuous monitoring. Appropriate harvesting techniques have been introduced and are meanwhile widely known and adhered to by the collectors. The local authorities are very supportive of the project. A good level of cooperation with the Apuseni Natural Park has been achieved and the project has helped in increasing the local acceptance of the park. Important links to a large, ethical buyer and to an international standardisation process for sustainable wild collection of medicinal and aromatic plants have been established.

The main challenge of the project during the third year will be to lay the foundation for transforming short-term impact into long-term sustainability. One of the most important elements will be the improvement of local livelihoods through the system established for this will be the only effective incentive for the local population to carry forward the aims and spirit of the project. The development during the first two years is encouraging, because the harvesters have seen that they get a better price for the material they deliver if the quality is adequate and harvesting guidelines are adhered to. The potential business partner has a similar philosophy, which would help in maintaining both the quality of harvested material and sustainable harvesting methods over the long-term. Economic viability of the business is a crucial question. At this stage, no clear answer can be provided yet, if this will be achieved. The results of the business plan which will be completed by early May 2006 should give a first solid idea on how economical the business will be and what will need to be done in order to achieve economic viability. It seems to be clear, however, that this will be difficult to achieve with Arnica harvesting and trade alone. Other products will have to be considered as well and integrated into the system. Expanding the scope of the operation to mushrooms (mainly *Boletus edulis*) and potentially other medicinal plant species is planned. This would also help in using the drying facilities for a longer period of time, as Arnica and mushroom harvest do not overlap.

An important element for project sustainability is the cooperation with the Apuseni Natural Park. Alin Moş is very interested in integrating the project concept and Arnica management into the management planning of the park. The park administration is about to develop the idea of regional branding, which includes the region's natural products as well as its cultural heritage and nature conservation. Sustainable tourism is an integral part of the concept, which may help to provide additional income to the local population in the nearer future and work against depopulation tendencies among the younger generation in the area.

Over the long term, it may be wise to include the problem of – illegal and unsustainable – logging into the wider conservation concept. This will need a cautious approach (see section 8).

## 8. Post-Project Follow up Activities (max 300 words)

During the annual planning workshop in Cluj in March 2006, the question of post-project follow-up has been officially addressed for the first time. The local project team is meanwhile aware of the importance to develop concepts for post-project follow-up very soon, including expanding its scope beyond Arnica and targeted fundraising.

Two possibilities for project follow-up have been discussed. The project manager MM from WWF-DCP Romania suggested including the project area in WWF's potential strategy and fundraising activities related to establishing FSC certified forest management in Romania. This information touches a sensitive issue and should at present not be disseminated beyond the project team, WWF-UK and DARWIN. It may, however, be strategically important, because establishing sustainable logging in

the area is one of the central aims of the Apuseni Natural Park; the local resistance is significant and it can only be overcome if concepts are presented in a cautious way and if the local population actively participates in the development of local implementation strategies. It will require several years.

Secondly, links have been made to the ISSC-MAP process (see section 6). If the Arnica project is selected for pilot implementation of the international standard, this could start as early as autumn / winter 2006/2007 and WWF/IUCN would be actively involved in fundraising for the pilot implementation.

## **9. Outputs, Outcomes and Dissemination**

All major outputs planned for the second year were achieved, except for the completion of the research on the socio-economic context and community attitudes, due to inexperience of the local team (see half-year report 2005). The output had to be postponed to after the 2006 field season.

One student has obtained his masters, the second student will complete his masters in summer 2006.

Drying experiments with the experimental drying house were successful and provided valuable information for the construction of the dryer in spring 2006. The inventorying of Arnica habitats could be completed and regular monitoring has been established. The Ltd was founded in February 2006 and the NGO / association will be established until June 2006. A large and ethical potential buyer for dried Arnica raw material has been identified and negotiations have started; a long-term agreement between the Ltd and the buyer is envisaged for May 2006.

Young professional building was successful and includes now more students than originally planned (7 instead of 3). Many other students worked as casual helpers during the field season. Although no formal training, this activity has been a good way of increasing the awareness of the importance of conservation aims within the academic community in Cluj.

Harvester training has meanwhile reached most local collectors and their families. However, work on farmer sensitization and training will need to be intensified during and after the last field season (2006).

Project dissemination through publishing peer-reviewed papers has been above average. Two papers were published during the reporting period; a publication of the scientific results is envisaged for 2007. The results of RP's master thesis could also be published after further data analysis. RP's supervisor suggested planning a publication of this work.

The project team did well in awareness raising at the local, regional and international levels. As in 2004, several local presentations and training events were organised at festivals, in schools, at meetings with the park administration and council meetings. On the international level, the project was presented by BM, FP, SFS, MK and Ioan Rotar at three international conferences in Estonia, Austria and Germany. Further project presentations to the international conservation community are planned in 2006.

The media coverage in the second year was less than in the first year. This is no result of a potentially lower interest. Whereas media interest in the first year could be raised through the novelty of the project, it was considered as wise to approach the media again after the first tangible results of the project are visible (dryer built, harvesting and trade system established, business and NGO established, buyer agreement), i.e. during and after the 2006 field season.

**Table 1. Project Outputs (According to Standard Output Measures)**

Code No.	Quantity Required	Description
2	2	<i>2 Romanian project staff obtain masters:</i> R. Popa has successfully completed his masters and a 6 -month 'Eco-management course' (weekends). He is currently looking for possibilities to start a PhD. M. Klemens has completed his diploma and collected field data for his masters, which will be finished in summer 2006.
5	3	<i>3 Romanian project staff trained in fieldwork &amp; analysis:</i> 7 instead of 3 project staff members were trained in fieldwork in 2005. H. Popa was trained in Arnica inventoring, mapping & GIS analysis and completed his survey. R. Popa was trained in Arnica monitoring & statistical analysis of data. M. Klemens was trained in conducting socio-economic surveys and in Arnica drying. M. Cosma was trained in quality control and buying Arnica from harvesters. A. Morea was trained in Arnica drying and data management.
6A	200 harvesters 300 farmers 2 park staff 5 workshops 2 thematic trainings	<i>Sensitisation &amp; training</i> About 140 Arnica collectors were trained in sustainable Arnica harvesting. In 2005, 98 collectors delivered collected Arnica material to the project centre. About 85 % of the material fulfilled all quality requirements. 4 training events were carried out in 2005, reaching both children and adult collectors.
8	3 wks/yr	2 weeks in July 2005 during field season (Susanne Schmitt); 1 week in March 2006 for review & planning meeting (Wolfgang Kathe)
11B	1 peer-reviewed paper	2 peer-reviewed papers: one paper in the proceeding of the 13 <sup>th</sup> International Symposium of European Grassland Federation. one paper in Medicinal Plant Conservation (Volume 11: 27-31, Bonn, August 2005).
14A	1 project workshop	2 <sup>nd</sup> annual review & planning workshop, March 2006
14B	2 international conferences	Participation in 3 international conferences: SFS and MK: Presentation on the project and the supply chain research; side event of the International Botanical Congress (IBC) entitled 'Sustainable supply chain management for medicinal and aromatic plants', 21 – 22 July 2005 in Vienna, Austria. FP and Ioan Rotar: Presentation of a poster based on the paper ' <i>Arnica montana</i> , an endangered species and a traditional medicinal plant: the biodiversity and productivity of its typical grassland habitats'; 13 <sup>th</sup> International Occasional Symposium of the European Grassland Federation (EGF), 'Integrating efficient grassland farming and biodiversity', 29-31 August

		2005, Tartu, Estonia. BM: Presentation of the Arnica project at the 35th Annual Conference of the Ecological Society of Germany, Switzerland and Austria (GfÖ); 19 - 23 September 2005, Regensburg, Germany.
15A, 15 C, 18C, 19A, 19C	5 press releases in RO 2 press releases in UK 1 local TV feature 2 national radio interviews 2 local radio interviews	In the reporting period, no newspaper articles were published and no TV / radio broadcast on the project was shown. After intensive media work in the first year, the project concentrated in getting the harvesting system, and business operation running on the ground and re-focus on media work, once tangible results are available and can be shown during and after the 2006 field season. Dissemination: Project flyer available since May 2005 T-shirts printed and distributed since June 2005 Project website available since October 2005
20	1 plant drying house	Experimental plant drying house (built in 2004) provided scientific data on Arnica drying under local conditions; these were evaluated and formed the basis for the design of the dryer(s) to be built in spring 2006; a first draft of the dryer has been designed by Chris Medland and is available.

**Table 2: Publications**

Type (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
Article	' <i>Arnica montana</i> , an endangered species and a traditional medicinal plant: the biodiversity and productivity of its typical grassland habitats'.- B. Michler, Ioan Rotar, F. Pacurar and Andrei Stoie, 2005.	Proceedings of the European Grassland Federation	<a href="http://www.egf2005.ee/indexen.php">http://www.egf2005.ee/indexen.php</a> see Annex I	-
Article	Sustainable sourcing of <i>Arnica montana</i> in the Apuseni Mountains (Romania): A field project'.- W. Kathe, 2005. ISSN 1430-95X	Medicinal Plant Conservation' (Volume 11: 27-31, Bonn, August 2005).	Natalie Hofbauer, BfN See Annex J	-



## 11. Monitoring, Evaluation and Lessons

### *Monitoring and evaluation of project progress*

As described in the first annual report, project progress has been regularly monitored through bi-monthly bullet-point reports, which have been prepared by all team members and sent to the project leader; the project leader compiles the bi-monthly report and circulates it to all team members. The bi-monthly reports are structured with the headings successes, initiatives, failures, threat, and lessons learnt. Contributions to the bi-monthly report are usually timely, although some project members do still have problems in time management and deliver the reports late or only sketchy which needs to be improved.

All important meetings of team members with external experts / partners are documented by short minutes.

Quarterly operational meetings are held since 2005 to allow more regular monitoring and exchange between WWF-DCP and the local project team in Cluj; these meetings also provide a regular opportunity to adapt the work- and time-planning if necessary and achieve a common understanding of the actions to be taken during the next 3 months.

The annual review & planning meeting is a very important element of monitoring and work-planning, because it usually is the only occasion where all project members come together, evaluate project progress and develop a work-plan for the next year. The annual planning meetings proved to provide an excellent space for discussing conflicts and finding common solutions.

### *Lessons*

During the past two years, it became evident that the project management structure has some deficits. One of the project members once summed this up in the remark: 'This project has too many bosses'. The main problem is that not enough time and funds are available for the project manager from WWF-DCP, and although MM is dedicated to the project and supports the local project team, whenever possible, the project officer provides much more guidance to the local project team than the project manager, without having, in theory, substantial management tasks assigned. In reality, however, the project officer managed the project over the past two years.

Besides personality problems as indicated above, this contributes to a feeling of fundamental 'foreign intervention' which has been voiced by several members of the project team. This problem has been addressed by the project leader through strengthening the position of the local project team so that more decisions can be made locally. In addition, care needs to be taken that local experts are consulted for local or national questions whenever possible.

The main lesson learnt from these deficits is that it may be beneficial for similar projects to have a stronger local management from the beginning. The title 'project officer' is obviously misleading and has been confusing to most; 'technical advisor' may be a more realistic term. Looking into the future of the Arnica project, it does not make sense to attempt changing this basic structure for the final year. However, it has been a good lesson to all project members and it is likely that care will be taken that the structure of the project follow-up will be adapted.

On a technical level, the project progress during the first two years has been significant. Although the final year will be crucial in showing whether the outputs achieved so far will contribute to the aims of the project and make it a sustainable operation benefiting conservation and local livelihoods alike, a number of important, encouraging lessons have been learnt from the outputs during the reporting period.

Capacity building on various levels has been very successful. The concept of sustainable Arnica harvesting and its potential benefits has been disseminated widely and have been largely understood and implemented. The capacity building of 7 young professional academics from Cluj has been highly successful and the progress in performance and in actively taking over more responsibilities within the project is very encouraging, in particular since most students have been brought up in an environment which supports order and obedience rather than individual initiative and open discussion. Except for Valentin Dumitrescu, who had considerable difficulties in team integration, all local project team members seem to feel that they have learned a lot during their involvement in the Arnica project.

**12. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)**

The most outstanding achievements during the reporting period were two important links and potential partnerships for the long-term sustainability of the project: 1) the development of a business relationship with a large, ethical buyer for the dried Arnica raw material (Weleda AG), who is interested in buying the 2006 Arnica harvest and considers a long-term commitment; and 2) contact to the international ISSC-MAP initiative and the potential to become a pilot project for the implementation of the standard.

Both international partnerships would reach far into the future and could help transforming the 3-years project into a sustainable operation and a model project that can be scaled up and replicated elsewhere.

In this region, the project has pioneered in developing a sustainability model which reaches from source to shelf: research on resource availability; monitoring; harvesting techniques; harvester and farmer training (the latter to be carried out in 2006); establishment of a local management structure (Ltd and NGO, the latter to be founded in summer 2006); long-term commitment of a large, ethical buyer.

Organic product certification, local branding / marketing and product diversification are planned for the post-project follow-up phase.

Project summary	Measurable Indicators	Progress and Achievements April 2005-Mar 2006	Actions required/planned for next period
<p><b>Goal:</b> To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> <li>• The conservation of biological diversity,</li> <li>• The sustainable use of its components, and</li> <li>• The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b></p> <p>To develop a model for the sustainable production and trade of Arnica montana resulting in benefits for biodiversity and livelihoods; the principles of which can be used to inform the development of conservation approaches and methodologies for other endangered medicinal and aromatic plants and their habitats.</p>	<p>Association at GdS (RMTA) able to secure conservation &amp; increased livelihood (e.g. income) by yr 3; appropriate agreement with company</p> <p>30% of farmers at GdS commit to long-term traditional habitat management by yr 3</p> <p>40% of harvesters at GdS adopt sustainable harvest practices by yr 3</p> <p>Model documented (incl. biodiversity &amp; social aspects &amp; sust. sourcing guidelines), disseminated &amp; considered useful by yr 3</p>	<p>Structural change. Instead of a RMTA a Ltd has been founded and a NGO/association will be established shortly.</p> <p>More than 40% of the harvesters in Ghețari and Ocoale have adopted the sustainable harvesting practices.</p>	<p>Foundation of the NGO, planned for June 2006</p> <p>Farmer training during 2006</p>
<p><b>Outputs</b></p>			
<p>RMTA founded &amp; effective at GdS (incl. harvesters, landowners, park staff)</p>	<p>Association exists by yr 2 &amp; achieves objectives</p>	<p>Ltd founded; NGO will be founded in June 2006, see above.</p> <p>Cooperation with the park established; Arnica management will be part of park management</p>	<ul style="list-style-type: none"> <li>• socio-economic &amp; attitude interviews/survey has not yet been completed; this have been identified as a top priority at the annual planning meeting</li> </ul>

Arnica management plan written, accepted & implemented	Plan written, incl. setting of annual quotas, by yr 3		Management plan produced until October 2006
Harvesters & farmers trained in sustainable harvest, habitat management & drying	Training conducted & manual disseminated to 200 harvesters & 300 farmers by yr 2; drying facilities installed & tested by yr 3	<p>Training of harvesters continued; training was effective, as only about 15% of the material delivered had to be refused due to quality deficits.</p> <p>Testing of drying completed; plan for dryer developed</p> <p>Harvester manual completed; as a small leaflet working mainly with pictures rather than with words, it will be attached to collection bags</p>	<p>Training of harvesters to be continued;</p> <p>TOT training particularly for training of women harvesters</p> <p>Focus on farmer training</p> <p>Installation of dryer(s) in May / June 2006</p> <p>Experiments with mushroom drying after the Arnica season, if the work load allows</p>
RMTA/company agreement based on sustainable sourcing guidelines	Sourcing guidelines exist (draft yr 2); agreement signed by yr 3; final guidelines by yr 3	<p>Sourcing guidelines deleted (approved by DARWIN)</p> <p>Agreement between Ltd and company (Weleda) in preparation</p> <p>Supply chain analysis in RO completed by MK</p> <p>Arnica trade study completed by Dagmar Lange</p>	<p>Finalisation of company agreement in May 2006</p> <p>Feasibility study for organic certification</p>
Awareness raised on benefits of sustainable harvest of MAP among harvesters, farmers, government agencies & academics	15 local meetings (incl. school & church events); min. 1 national workshop, 2 conferences, numerous media contributions	<p>4 local meetings</p> <p>3 international conference presentations;</p> <p>2 peer review papers submitted</p> <p>2 papers published</p> <p>Project flyer and t-shirts designed (April / May 2005) and produced</p> <p>Project website online (October 2005)</p>	<p>Focus on media work in the final year (TV / radio / newspapers)</p> <p>Presentation of project at side event at IFOAM conference on organic wild harvesting (HP; May 2006)</p> <p>2<sup>nd</sup> Gds community poster (Arnica management, postponed to May 06)</p>

## List of acronyms

AM	-	Adriana Morea (local project team member)
BM	-	Barbara Michler (project officer)
CITES	-	Convention on International Trade in Endangered Species
EC	-	European Commission
EGF	-	European Grassland Federation
EU	-	European Union
FP	-	Florin Pacurar (local project co-ordinator)
FSC	-	Forest Stewardship Council
GdS	-	Garda-de-Sus
HP	-	Horatiu Popa (local project team member)
IBC	-	International Botanical Congress
IFOAM	-	International Federation of the Organic Agriculture Movements
IMO	-	Institute for Market Ecology (certification body)
IUCN	-	The World Conservation Union
MAP	-	Medicinal and Aromatic Plants
MC	-	Mona Cosma (local project team member)
MK	-	Michael Klemens (local project team member)
MM	-	Maria Mihul (project manager)
NGO	-	Non-governmental Organisation
NTFP	-	Non-Timber Forest Products
RMTA	-	Resource Management and Trade Association
RP	-	Razvan Popa (local project team member)
SBS	-	Saïd Business School (Oxford)
SFS	-	Susanne Schmitt (project leader, on maternity leave 01-06 / 2006)
TOT	-	Training of Trainers
TRAFFIC	-	WWF / IUCN Wildlife Trade Programme
UBB	-	Universitatea Babes-Bolyai (Cluj)
USAMV	-	University of Agricultural Science and Veterinary Medicine (Cluj)
WWF	-	World Wide Fund for Nature
WK	-	Wolfgang Kathe (interim project leader 01-06 / 2006)

## **Documents included with report (all annexes are attached electronically)**

- Annex A: Annual work-plan April 2006 – March 2007
- Annex B: Minutes of Annual Planning Meeting, Cluj, March 2006
- Annex C: Arnica market study, Dagmar Lange
- Annex D: Arnica production scheme (Ltd / NGO), January 2006
- Annex E: Documentation of drying in Ghețari, Barbara Michler
- Annex F: Results of Arnica inventorying and monitoring in 2005, Barbara Michler
- Annex G: Sourcing and quality rating of Arnica flower-heads, Barbara Michler
- Annex H: Arnica supply chain in Romania, Michael Klemens
- Annex I: *Arnica montana*, an endangered species and a traditional medicinal plant: the biodiversity and productivity of its typical grasslands habitats; Michler B., Rotar, I., Pacurar, F., and Stoie A.
- Annex J: Sustainable sourcing of *Arnica montana* in the Apuseni Mountains (Romania): a field project.- Medicinal Plants Conservation, 11: 27-31; Wolfgang Kathe

## **Reports and documents available on request**

- Bi-monthlies
- WWF-UK Technical report by Barbara Michler, Project Officer (July-December 2005)
- Local project team work-plans