

Darwin Initiative

Half Year Report (due 31 October each year)

PLEASE NOTE: Due to the increased number of reports expected in 2005, we will not be able to confirm receipt of reports but will contact you individually should any questions arise

Project Ref. No.	162-13-20
Project Title	Conservation of Easter European Medicinal Plants: <i>Arnica montana</i> in Romania
Country(ies)	Romania
UK Organisation	WWF-UK
Collaborator(s)	WWF Danube Carpathian Programme (WWF DCP) and University of Agricultural and Veterinary Science (USAMV)
Report date	31 st of October 2005
Report No. (HYR 1/2/3/4)	2
Project website	www.arnica-montana.ro

- 1. Outline progress over the last 6 months (April – September) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up).**

progress against key milestones in this reporting period:

Draft producer (harvester & farmer) manual developed & tested (Oct. 05)

Training material for sustainable harvesting, which will form the basis of the producer manual, has been developed in collaboration with the local teachers. It has been used in this years training of harvesters.

We have requested for this output to be postponed to December 2005.

Training of harvesters & farmers in year 2 (June-Oct 05)

A training programme aimed mainly at children was developed in collaboration with the teachers of the schools in the Gârda de Sus (GdS) commune.

A total of 91 children in 3 different events at the local schools in Biharia, Suceşti, Ghetari and Ocoale were trained. A total of 45 parents/local people (including the older women who collect with the children) and all the teachers also participated in the training sessions. Training was re-enforced for 50 children during a training event at the Ghetari local festival.

That the training was effective was proven by a low rejection rate of 5% on Arnica flowers collected to be dried in the experimental drying house.

Training and capacity building of staff members (esp. 2 Master thesis (Oct. 06)), students and casual helpers

Razvan Popa has completed all his coursework for the masters at the University Babes Bolyai in Cluj. For his masters he is looking at the insect pest on Arnica. He did extensive sampling and collection of specimens during the June-August field season and will now identify the pest species with the help of an entomologist at USAMV. The project officer, Barbara Michler (BM) has provided him with extensive help and training in the design of ecological field research, literature surveying, statistical analysis and writing skills. He is expected to submit his master thesis in February 2006.

Razvan has also attended a post-graduate course in Eco-management from the University of Minnesota and has successfully graduated in September. He seemed to have benefited much from the additional exposure to biodiversity and conservation related studies and discussions.

After completing his 'Diploma' studies in February this year, Michael Klemens (MK) has successfully passed his entrance exam for his Master studies at Babes-Bolyai University and will start course work this autumn. He is also in the process of formulating his ideas for the master thesis and will shortly (by early November) produce a first draft of a concept. His topic will be in the area of Arnica supply chain and marketing related to the project and Romania more widely. He has received input and help to formulate his ideas, and give direction to his work on supply chain of Arnica, from the project leader, the project officer Barbara Michler (BM) and Dr Dagmar Lange an expert on the issue.

During the field season Michael was much involved in the procurement and purchasing of Arnica from trained harvesters for our drying experiments and the production of Arnica for Weleda. He has helped to develop charge sheets, receipt forms and other recording procedures, which are vital in documenting a chain of custody.

As it closely links to the issue of sustainable trade and marketing, MK is also taking an active role in the development of the RMTA or what is likely to become a local social enterprise.

With input from the project team he has develop a questionnaire to survey tourists' potential demand for Arnica and other natural products from the area. The intention is to gather vital information on the potential for local marketing of value-added products in addition to focusing on selling tried Arnica only. He and a team of casual helpers managed to interview 400 tourists during the main season in July. The questionnaire still needs to be analysed.

Valentin Dumitrescu (VD), assistant local co-ordinator and IT specialist, received a short introduction training to Arc View GIS from BM

Horatiu Popa (HP), Mapping officer and Park Natural contact person for the team, received training in printing maps and the use of GPS for field work. With BM he attended a field trip to the Rhoen Biosphere reserve in Germany (www.naturpark-rhoen.de) to get exposure to a well-run conservation area with examples of local marketing of agricultural and natural products from the park to help maintain a biodiversity-sensitive management. Information material was collected and shared with the team and staff of the Park Natural Apuseni (PNP)

BM's husband Dr Hagen Fischer helped to design a database for the input and administration of project expenditure of the Cluj team. FP received training in how to use it, as he is in charge of administrating all local expenditure.

Adriana Pacurar, agronomy engineer student from USAMV, received extensive training in performing drying experiments and data entry in the relevant database. She was employed and in charge of the experimental dryer during the field season, supported by BM.

Mona Cosma, agronomy student, was trained in buying Arnica flower heads from trained harvesters with detailed documentation of collection area, weight, quality and harvester details to be captured on a charge sheet. MK and VD supported her in this work. She also helped in the monitoring of the drying process and the loading and unloading of the dryer.

In addition, 41 students from USAMV received training in monitoring, inventory, meadow management and biodiversity issues. During June and July they worked at different times as casual helpers for the project.

Research:

The deadline for completion of all the research component was October 2005. Except for the supply chain and socio-economic research the research and analysis is well advanced and can be completed early in 2006.

The in experience of the team and the responsible researchers in the supply chain work and the socio-economic work means that considerably more work needs to be done. Additional training (e.g.

see social survey techniques course) and support for these aspects are now available.

Research on ecological sustainability of Arnica and link to farm management & tenure type (was due Oct. 05 requested to be postponed to March 2006)

Please see *attached maps* to show the state of Arnica inventory, results from the monitoring, which allows the mapping of the flowering rate of Arnica in 2004 and a map showing the different densities of Arnica across the project area. These maps will be updated when the 2005 data has been analysed (by March 2005).

inventory:

The inventory of Arnica meadows conducted under a previous project (Project Apuseni, 2000 – 2003) was extended to the entire area of the commune of GdS. The state of the inventory is shown in Map 1. The southern part of GdS is more mountainous and the mapping is physically exhausting and orientation is difficult because the mapping team lead by HP has to base themselves on very old maps.

monitoring:

The density of flowering individuals per site (meadow) was determined through the random selection of belt transects (2 x 30m) in which all flower heads were counted. The mean number of flower heads were related to the polygons of the inventory and then mapped see MAP 2, which shows the analysis of the 2004 data.

The flowering rate of Arnica was determined by counting the flower heads and vegetative rosettes of Arnica in 1 m² frames. On average about 10 frames per monitoring site were counted (80 was the max. number). For 2004, the average flowering rate per inventory polygon is shown in Map 3.

The 2004 data shows a rather uniform distribution of Arnica density in the south of the project area. BM is not convinced that this is correct. Therefore, in 2005 random polygons were identified from the map to see if the 2004 results can be confirmed.

Major analysis of the 2004 and the 2005 ecological data will be carried out over the winter. The inventory, monitoring and flowering rate data will then be complete and the sustainable yield for the project area can be calculated.

From data collected under the previous 'Project Apuseni', which did not cover the whole of the current project area one can extrapolated that about 2 t of Arnica fresh weight collected is sustainable.

Research on supply chain of Arnica (Oct. 05; postponed to October 2006)

MK is in charge of this work. He has been supported by Maria Mihul the project supervisor at WWF DCP and the Florin Pacurar, the local co-ordinator, to gain access and make visits to a total of three Romanian herb trading and one manufacturing company. As in 2004 he has also surveyed the local trading situation for Arnica in the Aries valley

This field season MK conducted semi-structured interviews with local traders in other parts of Apuseni mountains. The prices paid were between 10,000 – 15,000 Lei/kg (0.3 -0.4 Euros). In GdS commune 3 traders operated for 2 companies. They paid around 10,000 Lei/kg.

The project paid 30,000 Lei/kg for Arnica collected according to the harvesting standards set in the training.

The team also found out why there was hardly any demand for Arnica in 2004. It was suggested that a rumour in 2003 that stipulated that the wild harvest of Arnica would soon become illegal, resulted in a massive demand for Arnica and therefore large stockpiles. These demand fluctuations are common in the medicinal and aromatic (MAP0 trade, but represent a major challenge for collectors who rely on some additional income from MAP (especially old women).

MK can only research the trade and supply chain situation within Romania. In order to understand

the complete supply chain of Arnica, i.e., beyond the borders of Romania, we have hired Dr Dagmar Lange to conduct an analysis of the western European Arnica market and trade. Results are awaited in November.

To achieve a more comprehensive picture of Arnica trade from the local to the international level MK needs more time than initially anticipated. This is partly due to MK's inexperience, but also because it is difficult to obtain this often quite sensitive information. Also his masters' research will only get under way from this autumn.

Research on drying & storing of Arnica (Oct. 05; postponed to March 2006)

Following on from the 2004 field season extensive research was conducted to develop the optimum drying regime for Arnica flower heads. This year Arnica flower heads were actively dried in the experimental drying house (heated by wood stove) next to the field centre in Ghetari and through air drying in Blaj, which is a lowland area, with much higher temperatures and less rainfall.

Depending on how much moisture the flower heads hold it takes about 5 kg of fresh weight to obtain 1 kg of dried Arnica. In one flowering season and considering the throughput of the experimental drying house the project could dry approx. 100 kg this year.

The majority of the drying and storage research is now completed. The data from 2004 has been analysed and the data from 2005 will be analysed in the next few months. An important output of the research will be Standard Operating Procedures (SOP) for the drying process. On the basis of this, local dryer operators can be trained in 2006. Data collected on the capacity and performance of the experimental dryer will also inform the construction of up to 2 'production' dryers in 2006 with double capacity. See (company partnership below)

Research on socio-economic context & community attitudes at Gârda de Sus (Oct. 05; postponed to October 2006)

The work on the socio-economic research and establishment of community attitudes towards sustainable utilisation and traditional meadow management has suffered from the inexperience of the team and related to that a lack of focus. A considerable amount of information on the general socio-economic make-up of people living in the hamlets of Ghetari and Ocoale of the commune of GdS already exists from the previous 'Proiect Apuseni'. We need to focus on the specific information required, such as distribution of ownership of Arnica meadows, people's attitudes towards sustainable use of Arnica, etc.

So far specialist advice and help has been lacking, but a course for project team members and local researchers from GdS (e.g. teacher of Ghetari) in Social Survey Techniques should give a boost to this work. The course is conducted by Dr Paul Jepson between the 25th and 28th of October 2005.

- Community contact interviews continued in April, but stopped over the summer when people are too busy. These will be resumed in the autumn. To improve the information gathered, the design of the interviews might be modified, following the learning from the social survey techniques course.
- In July, MK and trained student helpers conducted a questionnaire survey investigating the potential demand for Arnica and other local products by tourists visiting Ghetari and the famous Scarisoara ice caves. 400 interviews were completed and now await analysis.
- Florin Pacurar (FP) conducted a rough survey of Arnica collectors in the northern part of Apuseni to be able to compare and contrast the situation with that in GdS.
- Survey of tenure situation and existing practice of meadow management has been led by FP, with the help of trained USAMV students.
- to record and document the interviews VD has designed an Access database.
- Appropriate analysis of the data gathered so far is now an important step.

Draft sourcing guidelines produced for comments (Oct. 05)

We have requested that this output is dropped. Preliminary research by the project leader has shown that these are mainly produced for suppliers by herbal product manufacturing companies themselves and focus mostly on quality and safety aspects. Some ethical companies include requests for information on sustainability. Companies should be encouraged to produce sourcing guidelines that include sustainability aspects. The main manufacturing company we are now dealing with is Weleda Germany who have already got very stringent and ethical sourcing guidelines. In fact, they are mainly interested to source from the project area because of the guarantee of sustainability and fair treatment of collectors.

Company partnership and Arnica trading

Very encouraging steps have been made towards a long-term company partnership with one of the biggest natural cosmetic and remedies manufacturer in Europe – Weleda Germany. Weleda is a highly ethical company run on the anthroposophic principles of Rudolf Steiner (www.weleda.com and www.weleda.de). The buyer of raw herbs of Weleda was contacted by the project leader (met on previous occasions through the WWF Germany working group on sustainable MAP use) to establish if Weleda would be interested to buy dried Arnica from our project area. With Arnica products, such as Arnica massage oil, being one of Weleda's biggest seller, the buyer Michael Straub, was indeed interested in purchasing high-quality, dried Arnica. This was particularly attractive to him because it would be guaranteed to be sustainably produced.

He visited the project site on the 6-8 th of July and was amazed at the abundance of Arnica that can still be found in the area and the general richness of the pastures. He was also impressed by the quality of dried Arnica that the project team have managed to produce in our experimental drying house. He offered to buy all we could produce in this field season, which was around 100 kg dried Arnica. This equates to about 500 kg of fresh Arnica.

Mr Straub already had a contact with an exporter, but because of unknown problems the dried Arnica has still not been exported to Germany. We are now running the risk of insect infestation, unless the material is moved soon.

Weleda is interested in buying up to 1000 kg of source high-quality dried Arnica per year from the project area and beyond (our area can not supply all that Weleda would be willing to buy!). They are offering to invest initially in another, larger drying facility to be able to increase our output. This would most likely be in the form of a part-investment. In return we would have to give them first refusal on the dried material. An agreement will be negotiated in the near future. If this arrangement is going to work successfully there is scope for more investment by Weleda. It has already been suggested that Weleda could invest in a small production facility that would produce Arnica oil in Garda. This would be a major achievement with very high level of value adding at the source of the material.

Progress towards the development of the RMTA/social enterprise

Contact interviews to find out the attitudes of community members towards a resource management and trade association (RMTA) were continued in the spring and will be continued now in autumn and winter. In the summer people are too busy.

After finding out that an association would not be allowed to trade, we now know that we need to establish a business. The project leader presented a possible scenario of how a social and ethical local enterprise could be founded with a board of directors and an ethical code committing the enterprise to sustainability and fair prices for collectors. Adherence to the code has to be monitored somehow by an advisory board. An association for collectors and landowners can be set-up separately to have their views represented. The idea is that the company would buy only from registered collectors that have undergone sustainable harvest training and consistently deliver high quality Arnica. A compensation scheme will have to be worked out for landowners that is based on a) an annual payment for maintaining the traditional management, or b) payment based on a share of the profit of the company or c) a mixture of both, particularly when considering that the company may not generate any profit for a number of years.

The task now is to develop guiding principles for the business, which will give the parameters for the development of a business plan. The business plan is needed to see what the costs and potential

income for such an enterprise could be, to identify local entrepreneurs interested to become member of the board of directors and then to make rapid steps towards registering a company in order to allow legal trade in Arnica. For the sale of this years' Arnica to Weleda the project will act in proxy.

We are also applying to the Oxford University Said Business School (SBS) to benefit from the MBA in social enterprise student consultancy projects. If we are accepted a team of 5 MBA students will research and advise on the setting up of the local social enterprise in the project area. This work would be carried out between January and March 2006. I attach the proposal that has been sent to the SBS.

Considering the above the RMTA/business is not likely to be set-up by the deadline of December 2005. An extension to May 2006 has been requested from the secretariat.

Sensitisation and Dissemination outputs

- Flyers, hand-outs and folders are now widely used (sent with this report) during awareness raising events, company visits and other contact with an external audience.
- T-shirts with an Arnica flower on the front have been given to the children and adults who have attended the harvester training. These have proved very popular. A photo is attached to this report.
- A project web-site was developed by April 2005 and has gone online. Due to some server problems it has only been accessible from within Romania. Since the beginning of October the web-site is generally available. The address is www.arnica-montana.ro and the content has much overlap with the project flyer, hand out and posters.
- Hand-outs were also produced in large poster format for displays in the field project centre, the University and a set to take to conferences and temporary exhibitions.
- 3 conference presentation were given. (i) by the project leader & Michael Klemens on the project and the supply chain research at the side event of the International Botanical Congress entitled 'Sustainable supply chain management for medicinal and aromatic plants', 21st – 22nd of July 2005 in Vienna. (ii) at the 13th International Occasional Symposium, *Integrating efficient grassland farming and biodiversity*, 29-31 August 2005, Tartu Estonia of the European Grassland Federation (EGF); a poster based on the paper described below was presented. Dr Florin Pacurar, local co-ordinator and Prof. I. Rotar, project advisor attended the conference (iii) conference presentation by the project officer at 35th Annual Conference of the Ecological Society of Germany, Switzerland and Austria (GfÖ), 19-23rd September 2005, Regensburg .
- 1 peer reviewed paper for the proceeding of EGF by Michler *et al.* (in press) with the title *Arnica montana*, an endangered species and a traditional medicinal plant: the biodiversity and productivity of its typical grassland habitats.
- project team attended the "Biodiversity Day in Cheile Turzii", 10.06-11.06.2005 and presented our posters and handed out project folders and flyers.
- On the 2nd & 3rd of July, despite difficult weather conditions, a successful meeting of specialists was held at the field site (Companies, Scientists of Agronomy, Pharmacy, Ecology, nature conservation and locals); The project was presented and field sites shown and explained to the visitors. It was particularly encouraging to see the interest of several companies and traders in visiting the project. 35 people attended.
- Several meetings and intensive communication took place with the local community during the field season, including some discussions about the RMTA.
- Three community and tourism events with presentations, flyer distribution and poster displays. The project jointly organised these events with the commune and the PNA.
- Meeting and presentation of project to 40 school directors from the district of Alba Julia.
- Participation of 4 project team members, the major of GdS and the 2 teachers of GdS at

Weleda Germany open days. Posters were displayed and a project presentation made. Over the 2 days 25,000 people attended!

Collaboration/partnership with the Park Natural Apuseni administration

- Several meetings with the park administration were held and the collaboration is good even if an official written agreement has not yet been signed yet.
- We have extended help to PNA by carrying out a 1 week botanical survey for the park in the Padis area
- Florin Pacurar, local co-ordinator, took part in a study trip of national parks and Natural Parks in Austria on the invitation of the director of PNA.
- FP participation in one of the first major stakeholder meetings of the PNA. It was attended by 35 people.

Team dynamics and staff moral

The team dynamic is now good and staff moral much higher after the difficult start-up period. Team members are now clear about their roles and responsibilities and fortnightly work planning meetings help to clarify responsibility and tasks ahead. It is also noticeable how each team member has already significantly built their capacity (a) to work in a team; (b) to work on this inter-disciplinary subject matter; (c) to work in a project context where outputs have to be delivered at regular intervals. There is of course still much room for improvements, but in general the work atmosphere is now quite relaxed and progress is being made.

2. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

As explained above we are now aiming to set up a social enterprise rather than an RMTA. Apart from the overall issue of a high workload of the project team and lack of experience in this field of work, arriving at this decision has caused some delays. We have therefore requested to shift the completion of this output from December 2005 to May 2006.

The delay in the completion of the various research components has also been explained above. Requests for a change in the timetable have been made to the Secretariat.

I am again due to go on maternity leave on the 3rd of November 2005. The danger of a lack of continuity has been avoided by the fact that Dr Wolfgang Kathe, who covered for my first maternity leave during the start-up phase of the project, will again be able to be the interim project leader until 30th June 2006.

The co-ordination of the financial administration between WWF DCP, the field office in Cluj and WWF-UK needs to improve. It has caused some confusion and delays in financial reporting. The main issue is that WWF DCP's accounting system is not entirely harmonised with the field accounting. The issue has now been identified and is in the process of being addressed.

Have any of these issues been discussed with the Darwin Secretariat and if so, have changes been made to the original agreement?

Request to change output deadlines (as indicated in text) have been made and we have requested to drop the output of the sourcing guidelines, due to reasons explained.

The secretariat has been informed about my maternity leave and cover. Alternative contact details for the project leader have been given.

Discussed with the DI Secretariat yes, in October 2005 (no answer received by 31/10/05)

Changes to the project schedule/workplan: yes, when confirmation received from Secretariat.

3. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

- Continued flexibility of the secretariat with carry forwards and switching funds between budget lines would be much appreciated.
- 1-2 pages for this report is too short.

Attachments:

1. Responses to reviewer comments on 1st annual report.
2. MAP1: state of inventory
3. MAP 2: monitoring in 2004
4. MAP 3: flowering rate 2004
5. Proposal to Said Business School, Oxford University, for New Business Development student consultancy project.
6. photo of boy with Arnica t-shirt, picking Arnica as taught during training events.
7. peer reviewed paper: Michler et al. (in press) *Arnica montana*, and endangered species and a traditional medicinal plant: the biodiversity and productivity of its typical grassland habitat.

Sent as hardcopy:

- Copy of folder with project brochure and flier.
- Social survey techniques course: copy of handouts

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.

Please note: Any planned modifications to your project schedule/workplan or budget should not be discussed in this report but raised with the Darwin Secretariat directly.

Please send your **completed form by 31 October each year per email** to Stefanie Halfmann, Darwin Initiative M&E Programme, stefanie.halfmann@ed.ac.uk. The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message.**