



PROGETTO GIADA

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GIADA PROJECT LIFE 00 ENV/IT/00184

Final Report - Integration Summary of Results

This summary of results is one of the final documents of LIFE Environment Project ENV/IT/00184, called GIADA Project, that was funded by decision of the Commission of the European Communities of 14/08/2001, according to article 4 of Regulation (EC) No 1655/2000.

This summary contains a brief overview of all the activities carried out in the framework of this project, according to the provisions of Art. 11 of the Standard Administrative Rules.

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Project Framework

The territory under study includes over 800 production units specialising in the field of tanning, mostly medium- and small-sized enterprises.

As for the scope of this business, in 2001 this district generated a turnover of about €3.15 billion, nearly half of which (€1.65 billion) owing to exports. With approximately 8,400 employees, the total output amounts to 165.2 million square metres of finished leather, chiefly used in the production of furniture and car upholstery, clothing, shoe uppers and leather goods in general.

The tanning activities carried out in this area involve processing of mainly cow hides, which is accomplished partly by companies that perform the entire processing cycle and partly by companies that carry out specific production steps on commission basis.

Another aspect which has a strong impact are the utilities serving this district's industrial production, namely: Purification plant. Waste water from the tanneries connected to the industrial sewer system and urban waste water from the Valley municipalities are conveyed into 5 purification plants located in Arzignano, Montebello, Trissino, Lonigo and Montecchio Maggiore, resulting in a total flow rate of 2,300,000 inhabitants-equivalent.

Waste recovery plants. Wastes are classified in two categories, namely wastes from treatments carried out prior to the tanning process and wastes generated after it. The initial hide treatment steps produce different types of wastes, like salt (which is partly dispersed in waste water and partly recovered for reuse on roads), hair and fleshings; other tannery-associated waste-producing processes are shaving, splitting and trimming.

Landfills for ultimate disposal. This district area has 4 landfills for municipal and similar wastes, two of which are exhausted, and 13 dumping grounds for special waste, two of which are currently in use, while the others are exhausted.

The very high concentration of SMEs specialising in tanning in this Valley is responsible for environmental problems, in spite of individual companies' compliance with law restrictions. Thus, in order to mitigate environmental impacts, as well as to start a sustainable development process, it was necessary to proceed according to different and innovative principles, which can be summarised as follows:

- creation of a District Environmental Management System and setting up of a local Agency to deal with all environmental issues, so managed as to integrate the traditional "command and control" approach;
- harmonisation and blending of the system of investments in the environment, based on priority planning, through the implementation of all possible synergies;
- execution of preparatory actions in order to facilitate the adoption of EMAS by SMEs; as a result, tanners will observe stricter limits than those currently defined by law.

Project Management (WP 1)

Structure and Roles

Regarding the partners' work, the project structure relied on the development of specific WP (Work Packages), that is homogeneous, discrete work areas usually intertwined and interacting with each other (WP 2, 3 and 4), as well as on the creation of a management superstructure (WP1), whose job was to ensure that intermediate goals (tasks) were attained and that they matched with the project itself.

A special aspect is addressed in WP 5, on communication. This aspect involved all of the project activities, as it pursued a unitary strategy for the dissemination of the project, in terms of training as well as information. Obviously, the partners' role was defined during the project drafting phase, based on the various responsibilities over WP's activities and the relevant Tasks. However, the management and communication activities (Arzignano Province and Municipality) and the technical and scientific ones (ARPAV and ENEA) typical of each authority were defined more clearly in the implementation phase, without overlooking the needed and natural comparisons.

Direction Management

Due to the rules on LIFE funding, this project required a management organisation to deal with all aspects linked to the relationships with the EU. The task of this organisation was to determine a precise time schedule of project activities and to ensure the attainment of quality and precision in technical, scientific and financial terms.

These tools altogether allowed to supervise the execution of the works in a very satisfactory way, while assuring that all achievable results were attained, often with a higher quality level than anticipated in the original plan, and reasonably according to schedule, save for the issues connected to one portion of WP 4 (Territorial Information System) described below.

Political-Administrative Management

Project management could not address merely operative matters, as at some points – real hinge points – it was necessary to gather decisions, opinions and views from external parties other than those who proposed the GIADA project. This was accomplished through special “forums”.

Environmental Policy (WP 2)

In the framework of GIADA Life Project, the original plan was to proceed by activating a “virtuous cycle”, in the logic of continual improvement described in Environmental Management Systems (EMS) models, which involved all concerned parties, whether public or private, that interact on the territory considered. A “District-shared” Environmental Policy (EP) was also defined. This “policy paper” set out the intervention guidelines and identified the most suitable path to achieve the chartered goals, by addressing the objectives of the 17 Municipalities involved in the project, of the Province of Vicenza, of ARPAV (the Regional Agency for Environmental Protection of the Veneto) as well as of the Veneto Region, with the indispensable contribution of the business sectors.

The choice of Indicators

Indicators, i.e. reference parameters against which the outcomes of the environmental policy are measured, were chosen taking into account impact-related aspects (water and air pollution, waste production, etc.) as well as the use of the territory (e.g. industrial-urban system, road network, agricultural areas, etc.). About 100 indicators were identified.

The Decision-making Forum identified three priority levels: low, medium, high, the latter being associated to air quality issues, followed in sequence by wastes and waste water discharge.

Population Survey

One of GIADA’s most qualifying aspects was linked to the willingness to involve as far as possible all citizens in the decision-making process, through appropriate information, training and dissemination activities.

In the case of indicators, a form was drafted and submitted to the citizens, alongside with an information brochure on the project, which was mailed to nearly 45,000 resident households.

Applicability of ATLANTE.

Moreover, this project envisaged use of a forecasting model called “ATLANTE”, as a support tool for the definition of the environmental policy.

Previously implemented in the Emilia-Romagna Region, where it was used to assess the validity of an environmental policy choice made by the previous legislator, in the tanning district this system was implemented as a prevention tool that, through proper use and evaluation of project indicators, was to produce the possible action guidelines.

Environmental Policy Guidelines

Subsequently, the local administrators concerned, alongside with the Veneto Region and the entrepreneurs’ associations, focused on the formulation of the fundamental principles of Environmental Policy.

The base document, ***Environmental Policy Guidelines for the Chiampo Valley Tanning District***, was first adopted by the Decision-Making Forum and then obtained the **formal approval of the decision-making bodies of the Municipalities and the Provincial Government of Vicenza.**

Environmental Management System (WP 3)

In order to determine and to accomplish the project goals, in accordance with the environmental policy previously approved, it was necessary to adopt the Environmental Management Systems (EMS) logic provided for in EMAS regulations and ISO 14000 standards. However, the need to adjust it to a district-size dimension resulted in the creation of a brand-new experimental model.

In particular, the following had to be defined:

- 1- environmental analysis of the territory;
- 2- management procedures;
- 3- the one and only party who was to be in charge of the environmental management system.

1-Initial Environmental Analysis

The drafting of the initial environmental analysis report (IEA) was planned from the start, so that it could be a useful guide towards the correct acquisition of data. It was so structured as to enable both the assessment of production sites, which was extremely useful for the next steps, namely the identification and definition of the individual companies' management procedures, as well as the assessment of the territory.

Territory assessment, in turn, featured two different levels: a level concerning the entire district and one regarding smaller units, such as individual municipalities.

Innovative Technical Aspects

Environmental Analysis was carried out partly through the use of brand-new monitoring techniques. These highlighted some areas of lacking knowledge, which in turn resulted in initiatives designed to carry out in-depth studies on subjects relevant to the air and water matrices [points a), b), c),d),e)].

a) Air Quality Monitoring

The campaigns for measuring the concentrations of volatile organic compounds (VOC) in the tanning district, which were carried out in the area included between the Municipalities of Crespadoro and Alonte (17 Municipalities) over a three-year period (2001-2003) and are still being conducted, provide a fair picture of the air quality situation in this district.

Monitoring is carried out according to Directive (EC) 96/62, to the M.D. No. 163/99, as well as to EC paper on «Guidance Report on Preliminary Assessment under EC Air Quality Directives» - January 1998.

b) Air Quality Forecasting Model

An air quality assessment program was set up, which made use of a pollutants dispersion model and a georeferenced register, through the input of data on production sites, meteorological data, plans showing the "chimney equivalent" for VOC emissions, as well as air photography and georeferencing via GPS technology.

c) Dynamic Olfactometry

Dynamic olfactometry is a sensorial technique which - through a selected panel of observers properly trained - allows to obtain an objective measurement out of an odour sensation, by transposing a subjective sensation into ou_E/m^3 (odour units per cubic metre).

d) Water-bearing Strata

One criticality that was identified in the Initial Environmental Analysis study had to do with lacking knowledge on the groundwater conditions, particularly with regard to the water-bearing strata under pressure in the Almisano area, which receive water from the aquifers located in the upper Chiampo-Agno-Guà Valley.

The source of supply of some waterworks in the Verona and Vicenza lowlands, with a water draw of approx. 600 l/s, over the past few years this system has evidenced some critical areas associated with progressive pressure reduction of the strata closest to the surface and with decreasing water quality, as a result of higher concentrations of salt and the presence of undesirable matter from industrial activities or from the agricultural and animal production sectors, like solvents and nitrates.

e) Waste Water Purification and Collection Systems

Currently, the water effluents from the purification plants located in Trissino, Arzignano, Montecchio Maggiore, Montebello Vicentino and Lonigo are conveyed into one single sewer trunk line which discharges the water into a stream called "Rio Acquetta" in the Municipal territory of Lonigo, outside the aquifer recharge area.

The project's general purpose was to gather all useful data needed to define the subsequent programmes for territorial planning and the protection of the environment.

2-Operative Procedures

The initial methodological work aimed to identify the different types of sites, as well as to define all environment-related aspects to which a management and/or operative procedure may be applied.

To that end, in conjunction with the Entrepreneurs' Associations a number of sample companies were selected based on company size and production; the technical-methodological comparison activities that were carried out with those companies led to revising some procedures and to calibrating them in the best possible way.

2.1-Sustainability Plan

A Sustainability Plan was drawn up based on the Action Programmes' typical pattern. This Plan defined the overall as well as specific objectives and the relevant actions, followed by a sort of "executive detail" planning, consisting, for instance, in the definition of a percentage improvement or the attainment of a quality threshold with reference to a pollution parameter. This shall be the task of the managers of the recently formed Local Environmental Agency.

The various Action Plans are described in the relevant cards, which are referred to a preliminary index setting out the intervention strategic goals for this district.

3-Local Environmental Agency

No EMS is likely to work unless it has a “Top Management” and unless the roles, responsibilities and authorities that are to govern the system are clearly identified. The Local Environmental Agency was created to carry out these functions. This Agency is the fruit of the common willingness of the public and private sectors to establish a new entity marked by technical and management independence, for the purpose of attaining and maintaining an effective integrated environmental management.

BATNEEC and BATTER

The analysis of existing plants, with specific processing and correlation to the machines and production systems, as related to the impacts on the environment, is the necessary link in order to define the district BATNEECs, that is the techniques that, when generally applied, allow to measure and to attain the necessary enhancement of the environment, as well as to update the sustainability plan in a concrete and effective way.

Territorial Information System (WP 4)

Thus, the objective of regularly updating the environmental policy and goals for this area was linked to the implementation of special information tools, through the use of a GIS which enabled the connection of all partners via the Internet and Intranet, and which will also allow to connect to the system all the Municipalities within GIADA's territory, in the near future.

In fact, information on the plants, as well as monitoring data and theme Database and software (both alphanumeric and geographic) could only be organised through a Territorial Information System, in order to regularly update the environmental policy and goals for this area.

The WebSite

Given the importance of creating a tool which could be used both as the core element of communication with the general public, so as to ensure continual access to the largest possible audience, and as an intranet basis for GIADA Project's partners and the Local Environmental Agency, a special website was created (www.progettogiada.org) and organised as a hypothetical «portal» for this district.

Training, information and Dissemination (WP 5)

Training

Entrepreneurs and Politicians

Great attention was dedicated to the creation of a new environmental culture within the so-called local elite, composed by the political representatives of the local Administrations and the representatives of the entrepreneurs' trade associations.

Civil Servants

Due to its goals, GIADA Project also called for the involvement of the personnel of the environmental, ecology and territorial management agencies of all public utility companies that have an authority within the Tanning District.

Technical Institute Students

The activity carried out in conjunction with the local Industrial Technical School «G.Galilei» in Arzignano deserves separate consideration. The co-operation with the teachers, particularly those in charge of the Technical Course for the tanning industry, resulted in the organisation of a specialisation course on environmental sustainability with special reference to the tanning sector, for students in the fourth and fifth year.

Information

The website www.progettogiada.org was widely used. All project technical papers were published free on this site, alongside with the proceedings of all the meetings of the decision-making, assessment and general-purpose forums, reporting the entire operations which were carried out. Additionally, in order to ensure an uninterrupted flow of information towards the general public, a special press office was created, whose task was to turn merely informative contents into news that would appeal to the local media. As a result, nearly 150 articles about GIADA were published in the local press over the project's three-year lifecycle.

Table 2 Main events organised to actively involve local elites and to set going a training phase aimed at new-generation environmental planning methodology, also indirectly.

Event	Date	Feedback
II° National Meeting on «The Tanning Industry and the Protection of the Environment»	02/02/2001	No. 280 participants
Presentation of GIADA Project Logo and WebSite	14/12/2001	Published 5 times in the local press + local TVs
Presentation of the first VOC monitoring campaign	28/01/2002	No. 45 participants + local media
III° National Meeting on «The Tanning Industry and the Protection of the Environment»	12/04/2002	No. 270 participants
IV° National Meeting on «The Tanning Industry and the Protection of the Environment»	28/03/2003	No. 246 participants

Dissemination

In the framework of GIADA Project, “dissemination” denotes all communication actions whose main goal was to disseminate information on the work carried out by the Project team with a twofold objective, namely the creation of opportunities for comparisons with the District’s Tanners as well as with operators from other industrial fields.

From the organisational viewpoint, the project was divided in two time phases: the first 12 months, which envisaged chiefly local-scope actions, and the next 24 months, in which communication and dissemination actions focused on the exportation of information and knowledge to other Italian and European districts (see table 6).

Table6: Statistic figures on the participation of Giada Project in “Ecomondo”, from 3 to 6 November 2003.

Ecomondo: Int.I Exhibition of Material and Energy Recovery and Sustainable Development	Rimini, Nov. 3-6 2003
Visitors to GIADA Project Stand (estimated)	No. 1,200
Certified visitors and visitors with whom we had talks	N° 319
Participants in the Workshop held on 04/11/2003	N° 30