

Una manera de hacer Europa



BUENAS PRÁCTICAS Actuaciones Cofinanciadas

"Lindane manufacturing waste management"
Government of Aragon

**Programa Operativo
de Aragón**

Año 2018

Fondo Europeo de Desarrollo Regional

MANAGEMENT OF LINDAN MANUFACTURING RESIDUES

Description:

The operation "*Lindane manufacturing waste management*" is aimed at decontaminating the soils affected by liquid waste and solid pollutants found in the landfills of Sardas and Bailín (province of Huesca) as a result of the activities carried out by the factory of Inquinosa during the years 1978 to 1992.

The objective is to achieve the environmental improvement of soils severely affected by the discharges suffered in these soils, below which water is collected for the purification and supply of some 40,000 hectares of irrigation.

Detected the challenge of this operation, the measures implemented to achieve the identified achievement are related to the management of three treatment plants; the continuous analysis of the water quality of the river; the monitoring of environmental authorizations; the coordination in matters of safety and health of the workers of the companies involved in the decontamination; and, finally, the implementation of infrastructures for the management of contaminated sediments.

This operation aims to obtain a solution that directly affects the water supply in several municipalities and towns near the waters of the Gállego River, which also represents an area of tourist importance par excellence for the development of numerous sports and leisure activities.

The executed amount of this operation is 3,790,260 euros, and ERDF aid is 1,895,130 euros, achieving the rehabilitation of 4.63 contaminated hectares.



This operation is considered a Good Practice because:

1. The action has been conveniently disseminated among the beneficiaries, potential beneficiaries and the public in general.

One of the priority objectives from the point of view of the Communication of this operation is to ensure that the results of the analysis of the water carried out after the samples taken at different points are known by the public.

To this end, the results obtained on the website www.stoplindano.es are published daily.



In parallel, and given the relevance of this operation, the annual meeting of the "Institutional Committee for the follow-up of the waste management of lindane manufacture" was taken advantage of, with representation from all the Public Administrations competent in the matter, it was informed the assistants of the European co-financing of this operation.

Likewise, the tasks carried out for this operation were reported at the annual meeting of the "Social Committee to monitor waste management of lindane manufacture", with political, technical, trade union and environmental representation, achieving a wide dissemination of the same.

Of course, awareness-raising campaigns should also be highlighted, including reports broadcast on national television and in digital and written press. As an example, we can highlight:

El Escarabajo verde Program:

Web News Aragón Government:

Heraldo de Aragón:

The screenshot shows a news article on the Heraldo de Aragón website. The main headline is "El nuevo laboratorio aumentará las 4.500 analíticas actuales de lindano". Below the headline, it states: "La DGA ha sacado a concurso las obras por casi 600.000 euros. Se instalará en el recinto de Pirenum de Sabiñánigo." The author is Laura Zamborain, Sabiñánigo, dated 27/02/2018 at 05:00. The article includes a photo of a construction site with workers and heavy machinery. There are also several advertisements on the page, including one for BBVA and another for Telepizza.

Según el pliego de condiciones del concurso público, dichas obras deberán estar finalizadas en diciembre de este 2018, con lo que se pondría en funcionamiento el próximo año. El presupuesto de licitación asciende a 588.623,86 euros y tanto las obras, como los nuevos equipos de análisis están cofinanciados al 50% por el Programa Operativo Feder Aragón 2014-2020 y responden al lema Construyendo Europa desde Aragón.

Igualmente se ha publicado el anuncio de licitación del suministro de pequeño instrumental y material fungible para este laboratorio, con un presupuesto de licitación de 160.000 euros.

Diario 20 Minutos

Olona comparte con Galicia la experiencia de Aragón en la lucha contra el lindano



Además, la apuesta del Ejecutivo aragonés pasa por encontrar una fórmula europea para afrontar los problemas generados por los residuos de la fabricación de lindano ya ha dado sus frutos. Por una parte, con la aprobación del proyecto Life-Discovered y la presentación en la convocatoria pasada de otro similar. Y, por otra parte, a la preparación de nuevos proyectos con el mismo objetivo en los que se encuentra trabajando la dirección general de Sostenibilidad. En el tema de financiación de las iniciativas para la lucha contra el lindano están cofinanciadas por los Fondos FEDER en el Programa Operativo 2014-2020, "Construyendo Europa desde Aragón".

2. The action incorporates innovative elements:

Know daily the results of the shots obtained to analyze the contamination and water quality in relation to the lindane residue.

This is the innovative element: publish daily the results that are extracted from the analyzes carried out in laboratories of the Government of Aragon, with a response time of approximately 4 hours.

In this way, detected the possible contamination of the resources of the area, through the warning to the emergency system of 112, the technicians undertake the extraction of the tests, these are analyzed and their results are disseminated daily on the web [www.stoplindano .is](http://www.stoplindano.is).

In addition, lab-level research work is being carried out to implement these large-scale techniques as measures to eliminate pollution and in search of the circular economy ideal.



Día	Punto de muestreo	Estado
23-07-2018	MZ-1 Embalse de Jabarella (*)	Óptimo
23-07-2018	MZ-2 Central de Carcavilla (*)	Óptimo
23-07-2018	MZ-3 Canal del Gállego (*)	Óptimo
04-07-2018	MZ-4 Azud de Ontinar (*)	Óptimo

3. Adaptation of the results obtained to the established objectives:

The objective established in this operation is clear: to detect lindane waste contamination indexes in the water intakes and their analysis in order to apply the corrective measures that reduce the impact of the waste in the affected area of affection.

To do this, the Early Warning and Monitoring System contemplates daily sampling and analysis in surface waters from the Bailín ravine to Villanueva de Gállego, comprising more than 150 km of the Gállego riverbed, as well as reservoir waters and canals.

In addition, an emergency and early warning protocol has been implemented to ensure the coordination of the affected Public Administrations, which responds to possible contaminations that affect the hydrological system.

Finally, it has been specified in the "Procedure for monitoring the Gállego river against possible contamination of lindane", coordinated by the Civil Protection Service of Aragón.

Sampling in the Barranco de Bailín:



4. Contribution to the resolution of a problem or weakness detected in the territorial scope of execution

The maximum priority is to guarantee the potability of the water and the quality for irrigation downstream of Bailín, and to achieve the reduction of the environmental impact.

The existing contaminants in the environment affected by lindane are very worrying, since these substances move away from their place of origin and remain in places not initially affected by the waste, posing a risk to human health and the environment itself.

As an example of this, taking advantage of the 13th Lindane International Forum, promoted by the Department of Rural Development and Sustainability of the Government of Aragon, which was attended by more than 150 experts from 35 countries on five continents, it became clear that pollution for lindane and its associated waste is a global problem. There are numerous sites around the world where this type of pollutant accumulates, without technically and economically feasible viable solutions in the short term. Some solutions that, with a definitive character, depend on the effort and success in coordinated R + D + i processes.

Contaminación multicomponente y multifasección:

Los contaminantes existentes en los emplazamientos de Sabiñánigo son principalmente benceno, policlorobencenos, policlorofenoles, isómeros de HCH, metanol y otros alcoholes, ácidos grasos, dioxinas y furanos, etc. La afección se encuentra en distintas matrices, aguas subterráneas y superficiales, suelos y roca.

Residuos	Suelos	Aguas subterráneas	Aguas superficiales
INQUINOSA	Fábrica de INQUINOSA y su entorno	Acuífero aluvial del Gállego en INQUINOSA	Barranco de Bailín
Vertedero de Sardas	Pie del vertedero de Sardas y entorno	Acuífero aluvial del Gállego Pie del vertedero de Sardas	Rio Gállego
Barranco de Bailín	Entorno del vertedero de Bailín	Acuífero en el macizo rocoso de Bailín	

5. High degree of coverage over the population to which it is addressed

This type of operation provides security in the management of water for the Aragonese population in the area. It is necessary to take into account that downstream of these sites water is collected for purification for 1,000 people and about 40,000 hectares of irrigation

With the aim of giving tranquility and confidence to the population involved, on the website of the Government of Aragon www.stoplindano.es, a valuation of the analytics carried out is shown daily.

The Department of Rural Development and Sustainability has offered all the town halls of the middle part of the Gállego viable and economically feasible alternatives to increase security in the event of contamination of the Gállego River water.

These solutions range from the supply from new catchments, to the most extreme case, the construction of rafts, for the occasional alternative supply for a period of 60 to 90 days. These rafts would be filled with drinking water from the Gállego.

It is necessary to clarify that when there has been an increase in concentrations in the Gállego River, it has had a punctual character, that is, a duration of 3 or 4 days maximum.

The quality of irrigation water is guaranteed by the "Procedure for monitoring the Gállego River in the face of possible lindane contamination". The existence of these daily data allows paralyzing the derivation for irrigation in case the water is not suitable.



6. Consideration of the horizontal criteria of equal opportunities and non-discrimination, as well as social responsibility and environmental sustainability.

This operation is part of an action undertaken by the Government of Aragon by the inaction of the owners of the factory, in the face of soil pollution produced. For the provision of the present service, it is required not only the installation of the sampler, but also the disposition of the personnel to collect said samples and their transfer to the laboratory. The staff employed belongs to the area.

It should be borne in mind that the hiring of female staff respects and encourages the hiring of female staff, in order to achieve the greatest possible equality of opportunity.

7. Synergies with other policies or instruments of public intervention.

The actions are included within the procedure for the monitoring of the concentration of lindane in the Gállego river, between Sabiñánigo and its mouth, issued by the Department of Rural Development of the Government of Aragon.

As an example of the advances in institutional management and as proof of the need for collaboration between the different agents involved, the collaboration agreement between the Ministry of Agriculture, Food and Environment and the Autonomous Community of Aragon was signed to define the actions corresponding to the decontamination plan for the Gállego River.

Among the different institutions and agents involved is a broad representation of institutional actors (Government of Aragon, Government of Spain, municipalities), environmental associations, communities of Irrigators or citizen associations direct representatives of the general public.



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