

FEBESURCA workshops on burnings

- an approach to analyze and solve conflicts using burnings as a case

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1. Background to the workshops

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In watershed management, the existence of conflicting interests is the rule rather than the exception. Within a watershed, the same resource - be it trees, water, soils, plants - have competing uses. Trees, for example, are used for firewood, for burning of charcoal and for timber at the same time as they serve to protect soils from erosion and water sources from drying out. In some cases, the people that use trees for firewood coincides with those who see trees as protecting the water sources; in other cases not. In some cases, those who own the trees coincide with those who depend on firewood for cooking and heating; in other cases not. The fact that what one person decides to do in one part of the watershed often effects what other persons can do in other parts of the watershed complicates the issue of watershed management even more.

In the Río Cabuyal watershed, by far most of the natural resources are privately owned. That means that the management of these resources - the trees, the soil, the water, the plants - depends upon and is the result of the combined actions of more than 1,000 families or 6,500 individuals whose interests far from always coincide. As an example, some families have sufficient land to sustain themselves and some have resources that allow them to pay labourers to help them in sowing, weeding, harvesting or perhaps in planting and maintaining grass strips to prevent erosion. Others are less fortunate. The land they own is not enough to sustain their family, and to make a living they therefore have to work for others. Thus, they are not only resource-poor with respect to land but also with respect to time for cultivating their own land.

Burning as a means of land preparation is but one example around which different interests are likely to exist; many more examples relating to watershed management could be thought of.

August and September is the season of fires in Cabuyal. Some fires are 'natural', caused by the relentless sun and the dry vegetation. Others are intended, meant to clean fields for crop residues, weeds and/or fallow vegetation as part of the land preparations. A questionnaire survey administered to a sample of 122 households in the Río Cabuyal watershed late 1994 by Jairo Castaño, showed that half of the households use burning as a means of land preparation (see table 1 and 2 below). Usually, these fires are controlled and confined to the field, but of course accidents

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happen, fires go wild and spread.

Although the general impression was that number of fires had diminished in 1994,¹ the fires that did occur were viewed with great concern, particularly by FEBESURCA and CIPASLA representatives. This owed to the fact that one of the apparently 'natural' fires took place in the upper part of the watershed right next to an area where FEBESURCA together with CVC, the regional watershed management authority, had created a buffer zone and planted trees in order to protect three water springs. The fire partly destroyed this work.

The FEBESURCA meeting held early September 1994 witnessed this concern with burnings. The representative from Buenavista, the *vereda* where the three water spring protection zones had been affected by fires raised the concern that it was necessary to find ways to penalize people setting fires. This raised a discussion whether penalizing is a feasible way to deal with such problems or a better way would be through awareness raising campaigns.

The discussion revealed the dilemma that attempts to promote certain watershed management practices represent in the area. On the one hand, neither CIPASLA nor FEBESURCA has the means to institute nor to enforce sanctions against individuals. As an indication of the difficulties involved, CVC, the regional watershed management authority and member of CIPASLA, which has a long history of developing and enforcing rules relating to land and water use practices, declined from enforcing rules relating to the use of burning for land preparations due to fears from its staff of being personally threatened. The fact that the use of burnings as a means of land preparation is not limited to a couple of families but is actually practiced by some 500 families further complicates the task of enforcement.

On the other hand, as the discussion revealed, fires do not only occur as a result of lack of awareness but also as a manifestation of protest against taking up land for the protection of water springs and rivers and thus water resources serving downstream populations. This points to the limitations of awareness raising campaigns. In order to win acceptance of the protection of two water springs situated in El Oriente on land belonging to the Cabildo La Laguna, the indian local government, which is an institutional member of FEBESURCA and thus indirectly of CIPASLA, CIPASLA had to enter a specific agreement with the Cabildo. This agreement underlined the Cabildo's right to relax the CVC rules prescribing a buffer zone of 50 meters around water springs and of 30 meters along river banks; its right to deny outsiders access to its land (including roads); and its right to use natural reserves within its jurisdiction

¹ This and the following description is based upon the minutes from the FEBESURCA meeting held September 2, 1994, and observations made by Pilar Guerrero who participated in the meeting as an observer.

without abuse.² Moreover, the agreement commits CIPASLA to allocate resources to the Cabildo's office in Siberia; to the construction of a community hall in El Oriente, and to provide technical assistance for agricultural projects. Despite this agreement and despite the agreement between the Cabildo and INCORA for the handing over of the land in El Oriente to the Cabildo saying that buffer zones to protect water courses had to be installed prior to redistributing land to individual members of the indigenous community, there were still people opting for land from the Cabildo and thus seeing their opportunities threatened, saying that they were not going to accept the creation of buffer zones.

The issue of fires thus gave rise to a feeling of powerlessness among the participants in the FEBESURCA September meeting.

It was on this background that the CIAT hillsides team decided to offer the FEBESURCA representatives a 'tool' to deal with problems such as burnings involving a multitude of conflicting interests and offering no immediate opportunities for regulating individual people's actions to conform with some accepted 'norm' through enforcement of sanctions or simple awareness raising campaigns.

2. Objective of the workshops

The objective of the workshops is to lead the participants through a process during which they come to recognize the existence of conflicting *and* legitimate interests, in this case relating to burnings, and the limitations of the two conventional approaches to deal with such situations of conflicting interests, according to which the dominant or most powerful interest group either i) formulate rules to which they seek to make others comply by means of enforcement; or ii) launch awareness campaigns aimed to make the others understand and hence comply, based on the assumption that the others are acting out of 'ignorance'.

On this basis, the objective of the workshops is to facilitate a search by participants for ways in which to reconcile the conflicting interests, for identifying viable compromises between the different interest groups.

The ideal situation for such workshops would be for both - or all - interests to be directly represented in order to allow for a negotiation to take place. This was, however, not immediately possible in the present case, since among FEBESURCA representatives there is an expected overrepresentation of farmers who do not use burning as a means of land preparation and who have sufficient land to sustain their

² These are all lawful rights according to law no... See Pilar 1995.

family as compared to the population as a whole³. However, after the first workshop, the participants themselves expressed the wish to invite people for the following workshop who would be likely to use burning as a means of land preparation and to hold this workshop in the upper part of the watershed where problems caused by burnings were perceived to be most serious. Thus, in the second workshop and a subsequent working group some of the people belonging to the Cabildo participated who had expressed strong opposition with respect to the creation of buffer zones on the Cabildo's land.

Table 1 and 2 below show, however, that there are **no significant differences** with respect to the use of burning for land clearing among the different well-being categories and that the use of burning is just as widespread in the upper part of the watershed as in the lower.

Table 1
Use of burning for land preparation by well-being category
Percent households using burning

	Highest level of well-being (n=25)	Middle level of well-being (n=61)	Lowest level of well-being (n=29) 28	Total (N=115) 114
Percent households using burning	44 44	49 46	48 46	48 46
<i>non-sig.</i>				

Source: Household questionnaire surveys, 1994 (N=121 households) (information on burning) and 1993 (N=997 households) (information on well-being).

³ Analysis of the well-being status of FEBESURCA representatives showed that none of the representatives belonged to the category of households having the lowest level of well-being who on average cultivate 1 hectare. Half of the FEBESURCA representatives belonged to the category of household enjoying a middle level of well-being and cultivating on average 2 hectares while the other half belonged to the category of households enjoying the highest level of well-being and cultivating on average 3 hectares per household.

Table 2
Use of burning for land preparation by altitude zone
Percent households using burning

	Low zone (n=36)	Middle zone (n=44)	High zone (n=41) 40	Total (N=121) 20
Percent households using burning	58 50	36 36	56 53	50 46
<i>NON-SIGN.</i>				

Source: Household questionnaire surveys 1994 (N=121 households) (information on burning) and 1993 (N=997 households) (information on well-being).

3. Organization of the first workshop

The first workshop consists of six sessions defined by the following tasks:

- I Make a typology of burnings - select which types should be kept for consideration in this workshop
- II Make a list of at least 20 reasons for burning (references should be made to the typology produced under step 1)
- III Make a list of at least 20 reasons why burnings are considered harmful (references should be made to the typology produced under step 1)
- IV Compare what has been suggested under 2 and 3 and make observations
- V Identify issues on which more knowledge is required in order to produce an action plan for reducing the harmful effects of burning
- VI Assign tasks to each of the workshop participants to be completed before the second workshop

Session I-IV will take place as brainstorming sessions whereas session V will take place as small group discussions feeding back to plenary. Session VI will take place as a plenary discussion.

Explanation of tasks

- I Make a typology of burnings and select which types should be considered in this workshop**

When we talk about burnings, in fact we talk about many different things. One example is an uncontrolled and accidental burning e.g. caused by somebody throwing a cigarette stump. Another example is when somebody wants to clean a field before

planting and therefore burns off weeds and what ever remains of plant residues from the previous harvest *and* there is somebody to guard the fire until it has died. Burning to clean a field but without having somebody to guard the fire could be a third type of burning.

The purpose of this session is to list the many types of burnings that exist in Rio Cabuyal, described as precisely as possible. Based on this list, the idea is to identify those types of burnings that are considered most harmful and therefore most important to deal with.

Methodology: After introduction of the task using slides showing different situations of burnings from the area, the participants are given a couple of minutes to think a bit about the task and make a few notes (only to be used for themselves) describing what they see as different types. Following these minutes of thinking, each participant is asked to suggest *one* type of burning which is put on the wall-paper by the workshop facilitator(s). All participants are asked in turn to suggest types. Nobody is allowed to contest what other participants suggest. However, each participant is requested to be brief and not to repeat types suggested by others.... they can, however, elaborate on types already suggested.

Following this session, some time is given to review the suggested types and consider which are the most harmful. Each participant is then allowed a fixed number of points which he or she can place for each of the suggested types (one point per type). (*Only if there are many types:* The types of burnings that receive most points are considered in the following part of the workshop.) Each type is given a name that makes it easy to refer to.

II **Make a list of reasons for burning** (*references should be made to the typology produced under step 1*)

Why do the above burnings take place? This is the question that should be answered in this session. It is important to note that to answer this question is not the same as judging whether or not burnings *should* take place. Whether or not one thinks that burnings are good or bad, they do take place. Thus the purpose of this session is to think about why that is, i.e. to put oneself in the shoes of those burning and see things from their viewpoint.

Methodology: The same brainstorming technique as before is used. When thinking about reasons it is important to specify which type(s)

of burning the suggested reason is relevant for.

III Make a list of reasons why burnings are considered harmful (references should be made to the typology produced under step 1)

Why is it that you consider burnings to be very bad? This is the question to be answered during this session.

Methodology: The same brainstorming technique as before is used. When thinking about harmful effects it is important to specify which type(s) of burning causes the suggested harmful effect is relevant for.

IV Compare what has been proposed in session 2 and 3 and consider what observations that give rise to

The objective of this session is to encourage participants to consider the degree of conflict and/or overlap that exists between the reasons why burnings take place and the reasons why some people see burnings as harmful.

Methodology: Participants are given 5-10 minutes to individually compare the reasons and make their observations. Participants are then encouraged to suggest these observations which are transferred to the wall-paper, following the same procedure as above.

V Identify issues on which more knowledge is required in order to produce an action plan for how to reconcile the different interests

Based on the above two brainstorming sessions there are probably a couple of new issues coming up, just as there might be a need for verifying or qualifying the suggested reasons and harmful effects.

First of all, in order to be better able to judge the consequences of burning, there might need for looking at experiences with burning elsewhere as well as experiences from research undertaken in order to understand the (positive and negative) effects of burning. Thus, it is important to formulate questions for which it would be nice to know what experiences from elsewhere (including research) have to say.

Secondly, there might be a need to assure that the reasons suggested in the previous session for why people burn correspond to reality. No matter how little one might approve of certain reasons for burning, the fact is that they exist and they make some people burn their fields, forests, etc. Only if we are sure that we know *all* types of reasons, we can hope to be able to make a plan of action that can reduce the harmful effects of burning. Here it is important to think about what it means to be a

representative of a community to an organization e.g. FEBESURCA. Being a representative means that one has to represent the many interests present within that community. Sometimes it might be necessary to say that 'the majority of people within my community thinks 'x' and therefore we should do 'y''. Still, however, a representative has an obligation not to forget that he or she is talking on behalf of the *majority* in a certain case, not *everybody*.

Thus, one task for the community representatives would be to go back to their community and identify reasons that may have been overlooked and others that have been identified but are not important. In doing so, it is important that each representative recognizes that within each community there are great differences with respect to the resources that each family has. Some have lots of land, others don't; some can employ labourers, others have to work for others and almost don't have time to cultivate their own fields. Rather than looking for and coming back with one opinion, each representatives should be encouraged to look for and come back with say three different sets of opinions relating to different types of families.

Methodology: The big group is split into a number of smaller groups of 3-4 persons which are given 10-15 minutes to discuss which issues they think it would be important to clarify, elaborate, verify, etc. These small groups present to the plenary and a combined list of issues is made.

VI Assign tasks to each of the workshop participants to be completed before the second workshop

Who should undertake which tasks... and when should we meet again?

4. Results from the first workshop

The first workshop was held November 15, 1994, in Pescador, with 8 participants (more participants joined during the workshop). The workshop lasted from 10 a.m. to 3.30 p.m. (lunch break included).

Ad I Typology of burnings and selection of types to be considered in this workshop

In a first round, the following types of burnings were suggested:

- Intentional burnings
- Burnings resulting from ignorance
- Burnings resulting from mental diseases
- Burnings due to carelessness
- Burnings to clean fields (controlled)

- Burnings due to need in order to benefit from the ashes in the lack of money to by fertilizers
- Burnings initiated out of 'evilness':
 - because of lack of firewood to cook
 - in order to obtain land
- Burnings due to tradition (traditional means of land preparation)

On the basis of these suggestions, a second round was made which resulted in the following typology:

Controlled burnings, i.e. in specific places with firebelts and where fields have been cleaned and plant materials heaped prior to the burning

- Type 1 Burnings where the field has been cleaned prior to the burning
- Type 2 Burnings where the field has not been cleaned prior to the burning

Accidental burnings

- Type 3 Serious burnings taking place around water springs and forests
- Type 4 Less serious burning taking place e.g. on fallow land or pastures

Others

- Type 5 Burnings due to 'evilness' (by adults, young people, workers)
- Type 6 Burnings due to ignorance

The workshop participants were subsequently asked to rank these different types of fires according to their seriousness. Each participants was allowed to rank three types and the ranking was done individually on small slips of paper which were later collected and counted.

This resulted in the following ranking:

- Type 1: 0 points
- Type 2: 3 points
- Type 3: 10 points
- Type 4: 2 points
- Type 5: 10 points
- Type 6: 6 points

One of the lessons from this session was that there are types of fires that are *not* considered to be a serious problem. Thus, rather than seeking to eliminate all types of burnings, emphasis can be directed towards the types of fires which are considered to be most harmful.

Ad II Which are the reasons for burning

- Lack of knowledge
- Lack of awareness
- Lack of resources and services
- To avoid paying day labourers
- Due to conflicts between or within families
- For personal economic benefit
- To sow
- To obtain firewood
- To obtain charcoal
- Due to resentments
- For pleasure
- To fight crop pests
- ~~no incomodar la siembra de frijol/maiz~~
- Increase the area under production
- To attract attention/protest
- Due to lack of organization

It took some effort to move beyond the type of explanations taking point of departure in the participants own normative viewpoint that 'burnings are bad' and into imagining the type explanations that people actually doing the burning would have for doing so. However, once this step was taken, the participants faced no problems in imagining the types of reasons that people could have for burning.

Ad III Which are the harmful effects arising due to burnings

- destruction of forest reserves (firewood, wood for timber and poles)
- drying out of water
- destruction of vegetative cover and organic material and microorganisms in the soil
- erosion and the subsequent drying out and acidification of the soil
- extinction of fauna and flora (wild animals)
- diminishing rainfall
- climatic changes
- destruction of human life
- monotonous landscapes
- environmental pollution
- reduction in the production
- poverty and misery
- social problems (e.g. migration in and out and to the city)
- violence
- increased food costs
- decline in the value of land

- increased prices for wood
- natural disasters (land slides, accidents, avalanches, destruction of communication)

The participants did not face any problems in constructing this list, perhaps because many of these cause-effect relationships have so often been 'preached' to them by technicians from the various organizations working in the area.

Ad IV Observations from comparing reasons for burning and harmful effects

- the reasons are individual while the consequences are general (for the whole community)
- *La gente quema las partes bajas; en la parte alte no se da????*
- there are no fertilizers
- people leave due to lack of resources
- lack of organization lead to social disintegration
- burning is a instantaneously solution whereas its harmful effects present themselves in the future
- due to ignorance, everything will finish
- there is a lack of adequate education with respect to the environment
- *la esperanza del planeta es el mismo hombre*
- *que haya un mejor nivel del vida*
- the future of the children
- egoism
- the big fires are in the indigenous zone
- we are exploiting to the maximum at present without thinking about the future generations
- we are all guilty
- while some are trying to do something, others are destructing
- people will see the problem when they are suffering
- it is the indigenous community which burn most
- the mestizos are more responsible

Ad V Topics on which more information is needed

Technical issues:

- How is it possible to verify that the microorganisms die as a result of the burning?
- How is it possible to demonstrate the beneficial effects of the soil 'insects'?
- How is it possible to demonstrate that the soil becomes more acid and the harm that this does to the crops?
- Which are the alternatives to burning, and where is it possible to see them so

that they can motivate **is this correctly translated?**

Social issues:

- Which are the reasons that make people burn?
- Which pedagogy/approach would be best to tackle the problem of burning?
- Which concrete alternatives are there in order to avoid burning?
- How do we better get to know the problems of each community and plan solutions?

Ad VI Who is responsible and when do we meet for the next workshop

Tasks	Responsible
Find information concerning the technical aspects	CIAT
Write and copy the report from the present workshop to all participants (to be distributed at the next FEBESURCA meeting)	CIAT
Obtain information concerning the social aspects from the different <i>vereda</i> , ensuring that information is obtained from the different segments of the population, e.g. from farmers having different levels of well-being	FEBESURCA workshop participant

The date for the second workshop will be determined in the coming FEBESURCA meeting, December 2, 1994.

5. Organization of the second workshop

As already mentioned, the participants in the first workshop decided that the second workshop should be held in an area where burnings were perceived to cause more serious effects and to invite people who were likely to use burning as a means of land preparation. Thus, the second workshop was held January 11, 1995 in the *vereda* La Esperanza with 11 participants.

The objective of the workshop was to present answers to the questions that had been posed in the first workshop and identify an action plan that will reduce the problem caused by burnings. The programme was:

- I Summarize the discussions in the first workshop, including conclusions and posed questions

- II Report from community representatives with respect to the social aspects
- III Report from CIAT representatives with respect to the technical aspects
- IV Conclusions and plan for future actions

6. Results from the second workshop

Ad II Report from community representatives with respect to the social aspects

Without being encouraged to do so, two among the participants had undertaken structured questionnaire surveys to a small sample of farmers living within their vereda (respectively with 8 and 12 respondents) focusing on reasons for using burning in the field, its beneficial and harmful effects, and possible alternatives to the use of burning. Others had done their enquiries more informally.

Among the conclusions that emerged from these enquiries was the use of burnings for land preparation is beneficial in the short run. It is fast and it allows all land to be cultivated which is important to people who either have very little land or are renting in land. Leaving weeds etc. to decompose, on the other hand, is beneficial in the longer run, it takes time before its beneficial effects prove themselves and take up the land where organic material is left to decompose, e.g. 'dead barriers'. Unless solving the problem that some people have very little land, it will be very difficult to convince people with limited resources not to burn.

Another conclusion that emerged from the enquiries was that almost everybody were aware of the harmful effects caused by burning, e.g. erosion, the loss of fertility, killing of the microfauna, etc. When people nevertheless prefer to burn, it is because they have to sow in time, e.g. lack of labour.

Ad III Report from CIAT representatives with respect to technical aspects

The report made by CIAT representatives (Jorge Rubiano) was based on a literature search and described the effects of burnings on the soil, distinguishing between the physical effects, the chemical effects and the biological effects, emphasizing the different types of micro-organisms present in the soil and their functions. Moreover the presentation described possible alternatives to the use of burning for land preparation, e.g. agroforestry, the use of cover crops and mulch etc.

Ad IV Conclusions and plan for future actions

- Lack of land and resources are considered as the principal causes for the continued use of burning as a means of land preparation
- There should be more participation from the communities in the meetings

This might be achieved through:

- strengthening the present group (participants in burning workshops)
- call for the participation of the FEBESURCA representatives not participating

- Alternatives⁴ to burnings should be implemented

The following proposals were suggested:

- to create a group in each community to control burnings
- to form institutional back-up for local persons/groups appointed by the Juntas de Acción Comunal or the Cabildo to control burnings in the season of burnings
- formulate norms for the management of burnings
- provide subsidies for crops in return for not burning
- CIPASLA should provide training and technical assistance with respect to burning and alternatives

A working group was commissioned to elaborate norms for the management of burnings to be presented to FEBESURCA and further to the Juntas de Acción Comunal and the Cabildo. This working group, consisting five persons, met January 21, 1995 and elaborated the attached *Normas para quemas* ("Norms for burnings").

7. Overall conclusions

How did the workshops work in getting beyond the impasse of punishing and awareness raising....

Weaknesses... feeding back to FEBESURCA

⁴ Rather than alternatives, emphasis was put at installing procedures for minimizing the harmful effects of burning, either through guarding that fires are not spreading (the two first proposals) or through formulating norms or regulations that should be followed when people use burning to clear their fields (the third proposal).

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