AVONTUUR SOIL EROSION CONTROL WORKSHOP
11 May 2013

Opening and Welcome


Noel Oettle gave every one a warm welcome to the workshop, and poresented the objectives and program of the workshop. The 48 participants were farmers from the district and from different conservation organisations (CapeNature, Indigo, Imogene, DENC, SANBI, EMG).

Objectives of the workshop

The objectives of the workshop were presented by Noel:

- To launch the GEF SGP project with members of the community and conservation organizations.
- To share knowledge with each other in connection with sustainable land use.
- To share theory and practices of soil and water conservation with participants.
- To give participants a chance to apply for land and water conservation in the landscape.

Program

09:00	Opening and welcome
09:05	Objective of workshop
09:10	Program
09:15	Introductions
09:30	Energiser
09:50	Input of EMG and Mentor farmers about soil and water conservation and our approach and experience on Avontuur
11:00	Energiser
11:15	Practical exercises ➢ Group formation and group contracts. ➢ Selection of focus areas. ➢ Problem analysis. ➢ Design and implementation of action to address the problem.` ➢ Beginning to implement the interventions.
13:00	Feedback
13:00	Planning follow-up
13:40	Evaluation
13:55	Lucky draw
14:00	Closure and thanks
14:05	Braai

Introductions


Cynthia facilitated the introductions. Each participant was asked to physically demonstrate how he or she was feeling.

Energiser: Blind Chicken

Shannon of Indigo facilitated the 'blind chicken' energiser for the participants. The energiser was designed to create a relaxed atmosphere, and to explain the importance of good communication.

Input related to soil and water conservation and the progress and experience in Avontuur

Noel provided this input. He explained that two natural processes occur constantly in nature, namely weathering and erosion. Weathering breaks down rocks and stones to make fertile soil. Erosion removes soil by the action of water and wind. If the balance between weathering and erosion is maintained, we can utilize the fertile soil. If erosion occurs much faster than weathering, the soil loses its fertility and productivity, leading to starvation of animals and people. If the land is transformed into an unproductive landscape through erosion, the process is called desertification.

One of the most important resources for the formation of healthy soil is the earthworm. These humble worms are hardworking soil engineers. Earthworm manure is fertile due to the digestion of leaves eaten by the earthworm. Earthworms make tunnels in the soil which allows for water to penetrate the soil. In England up to 12mm topsoil per year is created by earthworms. On Avontuur the earthworms are active only in the rainy season, and create more or less 4mm of topsoil per year.

Vegetation plays an important role in the formation and maintenance of healthy soil. Plants provide shade and mulch of old leaves that are favourable to the survival of earthworms, micro-organisms and fungi that contribute to the formation of fertile soil. The leaves of plants break the impact of the rain drops, and allow water to penetrate. The roots of plants also promote soil formation and prevent erosion.

Degradation and desertification means:

- Vegetation is deteriorating
- Soil is exposed
- Accelerated erosion occurs
- Earthworms and soil organisms deteriorate
- Topsoil washes or blows away
- Exposed subsoil forms clay crusts: water runs off
- Accelerated erosion and desiccation of soil
- Desertification occurs

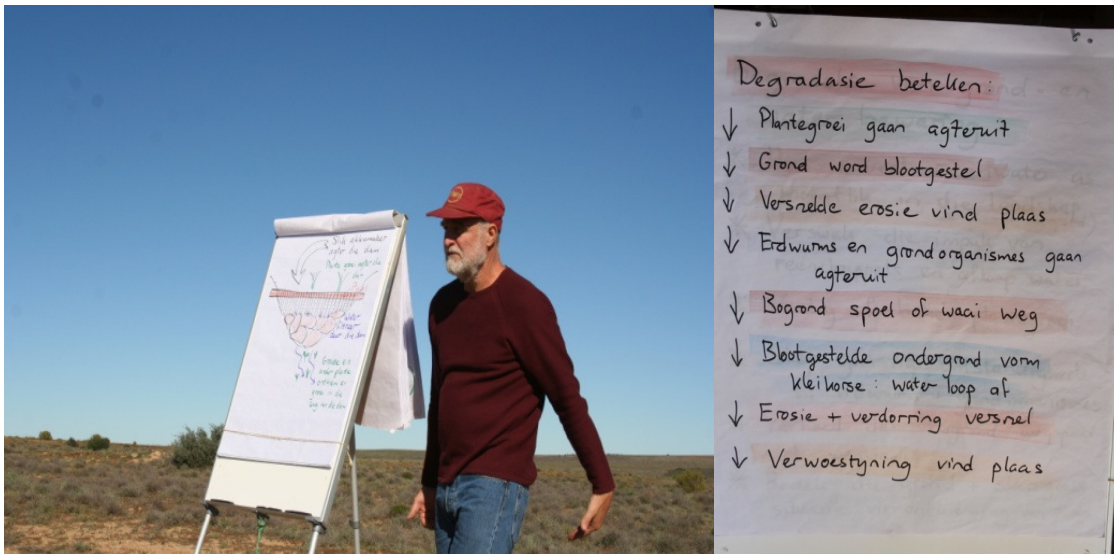
Causes of erosion on the Avontuur property:

- Overgrazing (too many animals and not enough rest for the field)
- Ploughing of steep land and water courses; ploughing up and down slope and not following the contour.
- Roads that become water courses (no cross-ties to divert the water from the tracks)
- Contours that concentrate water, and cause gullies down-slope
- Contours that were not maintained, and caused gullies to form where they broke

Our approach on Avontuur to planning actions to control soil erosion in water catchments is, as far as possible, always to use the resources available to us (in the case of Avontuur this includes rocks, branches of alien trees, seed and bushes. The steps that we follow in the design of successful interventions to control erosion are:

1. Analyse the problem - determine the cause of the degradation.

2. Assess whether current management practices are healthy (if they are not, change the management practices: for example change the ploughing pattern, reduce the stocking rate, rest the veld for longer rest, etc.)
3. Assess what the causes of degradation are, and what the results are (and focus on the causes, such as bare soil surfaces: if you only focus on the consequences, such as large erosion gullies, the problem will continue).
4. Plan the action: determine what results you want to achieve and what methods you will use. Start as far as possible in upper the catchment area (water and erosion problems always move downhill).
5. Get together enough resources and tools to get started.
6. Implement, and adapt as you learn from experience (from successes and from mistakes).
7. Monitor the impacts: learn from them and adapt your practices.



Noel gave a broad explanation of weathering, soil erosion and degradation

Noel explained the approach to soil and water conservation on Avontuur:

- Keep as much rain water as possible in the landscape (preferably not in dams, but in the ground)
- Weaken the impact of rain drops and runoff water
- Establish or maintain vegetation
- Create favourable conditions for earthworms and soil organisms

- Prevent washing away or blowing away of topsoil.
- Cover the soil and create good conditions for germination of seeds.

Use is made of dams built out of rocks, geotextile and bushes to combat erosion in gullies. These dams function in the following way:

- ✓ Some of the water is held back and sinks into the soil
- ✓ Water is filtered by the dam, and organic matter such as leaves, seed and silt is held back
- ✓ Silt accumulates behind the dam, and vegetation establishes in it
- ✓ Grasses and other plants to germinate and grow downstream in the seepage from the dam.

Findings of research of Michael Kruspe

The initial findings of research conducted by Michael Kruspe, a student from Hamburg University was presented to the workshop. Michael estimated that out of a gully system with an area of about 8,5 ha, between 4 000 and 6 000 tons of soil had washed away.

The accumulation of silt in gully system was measured:

- ➢ Behind the dams 20 cm
- ➢ Below the dams 13 cm
- ➢ Other gullies (the control) 6 cm

Practical exercise

The participants were divided into five groups to analyse the erosion problems in near-by areas, and to plan and implement interventions. Each group were ask to first decide how they want to work together as a team.

Each group chose an area to focus on. The groups were asked to distinguish between the causes and the consequences of any erosion problems, and to focus on the causes. After analysis of the problem, the group had to decide on a solution and implement it.

Team members create a barrier from stones, topsoil and geotextile for run-off water and a bed for the establishment of vegetation.

Team members build a stone weir

Team members inspect a weir

Instruction is given for the use of a dumpy level to plan contours

Feedback

Each group gave feedback on the group work. Everyone had a different opinion on the implementation of action. The participants found it very interesting.

Planning follow -up

- Visit to Oorlogskloof.
- Exchange visit to Knersvlakte
- Exchange among Groen Sebenza and Learnerships
- Working day on Dobbelaarskop.

Evaluation

Bettina facilitated the evaluation:

What did we like?

- Atmosphere
- Learned a lot
- Coffee
- Teamwork
- Want to see many more
- Young people attention
- Group work
- Attitude
- Very interesting
- Something to do
- We want to do the same
- Team spirit
- Work was nice
- Very informative
- Social event
- Everyone was very nice
- Weather, sun, apples
- Walk
- New encounters, new challenges
- Experience were fantastic
- Cooperation, exercise
- Theory, practical
- Very stimulating

What was not so good?

- No gloves

What we will change next time?

- Arrange for visits to other group work areas

The prize was a spade and a piece of geotextile. The winner was Drieka Kotze, a rooibos farmer from the Suid Bokkeveld.

Closure and thanks

Noel Oettle thanked everyone who participated in the workshop. Everyone was invited to enjoy a braai.

Registration list

#	Name	Organisation/Farm/ Place	#	Name	Organisation/Farm/ Place
1	Magrieta Oktober	Melkkraal	**25**	Angelo Hesselman	Nieuwoudtville
2	Bet Sass	Melkkraal	**26**	Gurshwin Klaaste	Nieuwoudtville
3	Griet Syster	Melkkraal	**27**	Andre Van Wyk	Nieuwoudtville
4	Nolene Kotze	Melkkraal	**28**	Mandy Schumann	DENC
5	Maria Kotze	Melkkraal	**29**	Ronelda de Vries	Cape Nature
6	Martinus Tê Kotze	Melkkraal	**30**	Helena Beukes	Cape Nature
7	Martinus Kotze	Melkkraal	**31**	Shaneen Stewe	Cape Nature
8	Hugo Kotze	Melkkraal	**32**	Melita Weideman	Cape Nature
9	Drieka Kotze	Melkkraal	**33**	Wynand Pieters	Cape Nature
10	Raymond Filander	SANBI	**34**	Lionel Cloete	Cape Nature
11	Andries Fortuin	DENC	**35**	Narvin Dramat	Swartz Bouers
12	Richard Masent	Imogene	**36**	Piet Hendrikse	AMT
13	Abraham Syster	Imogene	**37**	Henry Cloete	Cape Nature
14	Curtly Beukes	DENC	**38**	Freddie Steenkamp	F. Steenkamp Traders
15	Jacob Fortuin	DENC	**39**	Jors Gous	Melkkraal
16	Percy Kok	DENC	**40**	Shannon Parring	Indigo
17	Marcus De goede	Indigo	**41**	Estholene Moses	Indigo
18	Elsa Goldfarb	Groenrivier	**42**	Hendrik Hesselman	Dobbelaarskop
19	Wilma Smith	Nieuwoudtville	**43**	Sanna Hesselman	Dobbelaarskop
20	Esouw Andrew	DENC	**44**	Donna Kotze	Indigo
21	Leon Koopman	DENC	**45**	Bettina Koelle	Indigo
22	Tshwarelo Senokwane	Imogene	**46**	Noel Oettle	EMG
23	Bennet Hesselman	Dobbelaarskop	**47**	Areefa Tietis	EMG
24	Ragel Hesselman	Dobbelaarskop	**48**	Cynthia Coetzee	EMG

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