

**IN THE HIGH COURT OF SOUTH AFRICA
(NORTHERN CAPE HIGH COURT, KIMBERLEY)**

Case No: 1633/2007

**Heard on: 10/05/2010-14/05/2010;
20/09/2010-23/09/2010; 27/09/2010-
30/09/2010; 23/05/2011-25/05/2011;
11/08/2010-12/08/2011**

Delivered on: 19/12/2011

In the matter between:

PIET VAN WYK

PLAINTIFF

AND

UMSOMBOMVU MUNICIPALITY

DEFENDANT

JUDGMENT

PHATSHOANE J:

1. Mr Piet Van Wyk, the plaintiff, instituted a delictual claim for damages against Umsombomvu Municipality, the defendant, following the torrential rains and catastrophic floods of February 2006 which left destroyed the lucerne on his farm, Buffelsvlei, situated between the N1 National road and the R717 road at Colesburg, Northern Cape Province. The claim is in respect of 9 000 hectares of the circular-shaped arable or pivot land which was so prepared in 1985. The merits and quantum were separated. Therefore the trial proceeded solely in respect of the former.
2. The plaintiff has farmed on Buffelsvlei since 1971. Adjacent to his farm are the defendant's eight oxidation ponds or sewerage works/dams. Most of these dams were built in 1975. The ninth dam is referred to as the 'tydelike val'/the catchment dam built in 2000, probably to increase the capacity of the oxidation ponds. It is located approximately 200 meters from the border of the plaintiff's land. These dams are central to the dispute between the parties. The 'Trappiesdam' stream flows through the

town of Colesburg and passes close to these oxidation ponds. Its natural course is towards the plaintiff's pivot land situated in the waterway of the stream. The stream splits into two creating an island at the pivot area and rejoins at the lower lying part of this land. A soil embankment is built around the pivot land to a height of approximately 750 mm. At the lower part of the ponds towards the plaintiffs land the stream is perennial. The plaintiff started experiencing problems with the overflow of the stream in 2002 due to what he termed a sewerage crisis. The stream became polluted because of the overflowing of the oxidation ponds. His 'weir' built closer to the sewerage ponds has been filled with sewerage water since 2002 and gives off a foul smell. He called the Municipal officials and the department of water affairs to his farm at a couple of occasions to observe the situation.

3. Once established the lucerne would remain in production for about ten years with approximately five cuttings/harvests in the summer season after which period it should be re-established. In this case the production went beyond the ten-year period from 1985 when it was established until around 2003 when it was re-established. Following its re-establishment the plaintiff continued to reap the fruits of his labour until December 2005. Over the years his lucerne production has been excellent and he made good profit out of it. Mr Neels Snaayman states that he bought first grade lucerne from the plaintiff on a regular basis. In May 2005 when he visited the plaintiff, his lucerne fields were an oasis.
4. In mid January 2006 the lucerne was still very good and ready for harvest but the plaintiff could not harvest because of the threatening bad weather. The plaintiff testified that the defendant's catchment dam was constantly leaking and discharging its contents into the Trappiesdam stream. In February 2006 all living creatures in his weir such as fish, crabs, frogs and the like died of apparent poisoning.
5. At least once yearly, there is a flood in the area where the plaintiff's land is situated. With a heavy rain fall around 06 February 2006 in Colesburg heavy floods hit his land carrying with it the sewerage effluent. This happened for a period of a week. With the floods gone the water still dammed on the pivot land. The floods deposited foul filth such as foam, yellowish debris, condoms, toilet paper, "little something of everything on the land" as he puts it. The lucerne was immersed in water for at least two weeks. What was noticeable was something he never experienced before. He heard the odd sounds similar to the symphony orchestra in the area covering the pivot land as the water bubbled/ battled to infiltrate the soil. The lucerne was flattened like hair combed backwards. In a matter of three weeks the lucerne changed colour to yellow and

disintegrated. Thereafter what was on the land turned white (a white paper-like material). After this episode the plaintiff did not re-establish his lucerne for fear of being in quandary once more because the defendant had done nothing about its sewerage works.

6. To dispel the Municipality's suggestion that the plaintiff had been negligent in that, *inter alia*, he applied bad irrigation practises and cultivation methods or used inappropriate fertilizers that posed a high risk to the drowned lucerne pastures the plaintiff intimated that he does not use the pivot for irrigation. He irrigates once upon the establishment of the lucerne. His lucerne depends entirely on the rain water or its long root system draws underground water. Chemicals such as calcium sulphate and superphosphate were only added to the soil in 1985 and 2003 when establishing and re-establishing his lucerne.
7. This trial was preceded by an inspection *in loco* which was conducted at the defendant's Colesburg sewerage treatment works and on the plaintiff's farm Buffelsvlei. Mr Barend Rossouw, a health inspector of the defendant, who also headed its sewerage unit, testified that no chemicals are added to the sewerage water or system. The oxidation ponds depend on bacteria to function properly. During this inspection at the sewerage plant it was observed that the raw sewerage passes through a grid which strains the plastic bags and other foreign material. The sewerage water without foreign material passes through a pipe into a chamber and discharges into two anaerobic sewage dams which are approximately five meters in depth built in 2002. The small quantities of foreign materials in the anaerobic dams are digested in time.
8. Rossouw explained that the contents of the anaerobic dam would not discharge into the Trappiesdam stream. The sewerage water in the anaerobic dams flows through the primary dams which are two meters in depth. No foreign material flows through the chamber to the primary dams. From the primary dams, the water flows to the secondary dams which are also two meters in depth. Below this are tertiary dams. Water reaching the tertiary dams is apparently treated or clean. Below the tertiary dams are the irrigation dams. Rossouw testified that the clean water from the irrigation dams is pumped back into the primary dams and is utilized by Dr Rous for irrigation. Dr Rous's father also used the water for the same purpose since 1975. That much was confirmed by Dr Gavin Rous who nevertheless stated that he tries to irrigate as little as possible with the sewerage water as it has some negative effect on in his plants

particularly lucerne which is the first crop to wither and die.

9. Rossouw states that there are no unbroken human solids and it is not possible that the solids can end up in the irrigation dams. His testimony on this score was corroborated by that of Mr Bertus Jacobus Kapp, an official of the defendant since 1995, who added that the defendant has erected the catchment dam to prevent treated sewerage water from flowing into other water courses. Kapp further states that it has been an ongoing process for the defendant to upgrade its waste water treatment works and had to go through many obstacles in an attempt to secure funding for the project, to no avail.
10. The plaintiff's dilemma with the defendant's sewerage treatment plant has a history of its own. On 7 June 1996 his attorneys wrote a letter to the Municipality complaining about the over-flow of the effluent which led to the plaintiff having to move his cattle elsewhere and requested the Municipality to deal with the problem. On 6 August 1996 the Municipality received a letter from the Department of Water Affairs and Forestry which reads:

“EFFLUENT OVERFLOWING FROM THE OXIDATION PONDS

The visit on 24 June 1996 has reference.

We appreciate your efforts of trying to prevent the effluent from flowing randomly in the veld by constructing an informal dam. We however wish to remind you that overflow of effluent in the veld is an offence according to section 21 (1) and 23 (1) of the Water Act of 1956.

Furthermore, we are afraid we cannot allow disposal of effluent into the Oranje River as proposed by the Health Inspector, Mr F. Van Der Berg. The reason the municipality was issued with an exemption to section 21(1) (no. 522B) is because the quality of effluent from oxidation ponds does not meet Department of Water Affairs and Forestry standards (regardless of whether E.coli in the effluent is 19). If the effluent is too much for the present user, alternative irrigation should be sought for the surplus effluent.

The ponds, especially the irrigation dam, is thickly overgrown with long reeds and grass. This should be removed.

We wish to arrange a meeting between the Municipality, Meatlands abattoir and Department of Water Affairs and Forestry with regard to the salt water pollution effected by Meatlands.

We propose a date from 2 – 6 September 1996. Let us know which date would be suitable for you.”

11. In responding to the aforementioned letter the Municipality writes:

“EFFLUENT: OXIDATION PONDS: COLESBERG

Your letter in respect of the above-mentioned ref 16\2\7 D341\D1 dated 7 August 1996 has reference.

Please take herewith notice that the 6th September 1996 suits us best for discussions with yourselves and Meatlands in respect of the alleged saline pollution. (Please arrange with Meatlands).

Regarding the overflow from oxidation ponds, we once again would like to bring under your attention that an application for the creation of two additional dams was lodged with the Department of Housing and Local Government, of which a copy was forwarded to your office.

Mr Van Der Berg mentioned to you that the excess water was disposed in a dry river system. After complaints from the adjacent farmer, the effluent was dammed in. The Orange River is approximately 35 km from the sewerage works.

A contract has been entered into with the farmer to use the effluent for irrigational purposes which would solve the problem.”

12. On 12 October 2004 the plaintiff directed a letter to the Municipality complaining about “afloop rioolwater” and received a response from the municipal manager dated 11 April 2005 which reads:

“RIOOL AFLOOP WATER VANAF RIOOSTELSEL

Hiermee erken ek ontvangs van u skrywe van 12 Oktober 2004 in verband met bogenoemde aangeleentheid. Eerstens wil ek hiermee verskoning aanbied dat daar nou eers gereageer word op u skrywe. Die vertraging is egter verooksaak deur n administratiewe fout.

Daar word kennis geneem van die inhoud van u skrywe. Die nodige water monster resultate soos in u teenwoordigheid geneem, word dan ook hierby aangeheg. U moet

ook kennis neem van die aanbevelings soos wat deur die Nasionale Departement van Landbou voorgestel word. Die Raad het dan ook onmiddelik hul raadgewende ingeniers, Mnre. Kwezi V3 opdrag gegee om die nodige besigheidsplanne op te stel om die problem aan te spreek.

Die besigheidsplanne is reeds voltooi en die nodige aansoek om befondsing is ook reeds ingedien. Sodra die nodige fondse bekom is, sal die riooldamme onmiddelik opgegradeer word.

In die lig van bogenoemde kan u ook sien dat die Raad werklik ernstig is, om die problem so spoedig as moontlik op te los.

U kan verseker wees dat voorsorg maatreëls te alle tye getref word om die problem te prober voorkom.”

13. Looking at the ditch-water ('slootwater') sample results dated 08 October 2004 forwarded to him by the Municipality the plaintiff testified that the water was very salty and dangerous for irrigation. He does not use this water for irrigation but has no control over it flowing into his farm.

14. The consulting engineers compiled a report in February 2005. This report highlighted for example that the area below the irrigation dam was soggy and a small stream had formed rendering the land marshy. That it was suspected that insufficient irrigation was taking place resulting in the overflowing of the final lap of effluent from the irrigation pond to the lower lying areas. The report further records:

“However, the inflow exceeds the design capacity resulting in substandard final effluent. A high dissolved solid content is noted in the sample results attached in annexure A. It is presumed that the high levels originate from the abattoir. This should be investigated and preventative steps taken by the municipality...

In addition to the above, sufficient pasture for irrigation should be incorporated into the planning of the extensions to ensure that an end is made to the uncontrolled discharge....

Urgent attention needs to be given to the required present and future irrigation pastures as uncontrolled disposal is causing ponding, uncontrolled streams and unhappiness of neighbouring property owners. This is also a health hazard and is in contravention of DWAF regulations.”

15. On 25 January 2006, the Municipality wrote a letter to its consulting engineers which reads:

“UPGRADING OF THE COLESBERG WASTEWATER TREATMENT WORKS: MIG APPLICATION

We refer to the abovementioned MIG applications as submitted to your Department.

The upgrading of the Wastewater Treatment Works is a high priority project for the Umsombomvu Municipality because of the following:

- ***700 buckets to be eradicated in the near future.***
- ***More waterborne sewage connections will also be implemented.***
- ***Contamination of the downstream boreholes takes place because of substandard sewage overflow.***
- ***The neighbouring farmers suffer lucerne losses because of the uncontrolled, high salt content overflow from the Wastewater Treatment Works.***
- ***Acreage of farmlands became waterlogged and can therefore not be utilized for farming.***

The abovementioned foresee several problems in the near future and thus need urgent attention to avoid possible lawsuits against the Umsombomvu Municipality.”

Rossouw stated that he wrote the aforementioned letter to the Municipality’s service provider in order to bring to their attention the seriousness of the situation.

16. Section 19 of the **National Water Act**, 36 of 1998, provides:

“19 Prevention and remedying effects of pollution:

1) An owner of land, a person in control of land or a person who occupies or uses the land on which-

- (a) any activity or process is or was performed or undertaken; or***
- (b) any other situation exists,***

which causes, has caused or is likely to cause pollution of a water resource,

must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.”

17. The historical setback of the discharge of the Municipality's final effluent into the lower lying areas of Colesburg and other water courses painted above is disquieting. This problem, it appears, dates back as far as 1996 and to this date the Municipality has not found a solution to the health hazard posed. Nonetheless what is at issue here is whether its conduct resulted in the demise of the plaintiff's lucerne pastures.

18. In his particulars of claim the plaintiff avers that the Municipality allowed the Trappiesdam stream to be contaminated. The pollution was caused by untreated solids and/or human waste with accompanying chemicals, amongst others, sodium, lead, chlorides and nitrates. The polluted water with its concomitant foreign substances was carried down the stream and settled on his pivot land. The pollutants caused the compaction of the soil which led to the drowning of the lucerne during February 2006.

19. The plaintiff further avers that the Municipality was negligent in that it allowed or did not prevent the Trappiesdam stream from being polluted with the aforementioned pollutants from the sewerage works or from landing in the Trappiesdam stream or failed to clean or rid the stream of these pollutants. That it did not take preventative measures against the contamination. That it did not exercise a duty of care and remediation of environmental damage as set out in s 28 of National Environmental Management Act, 1998 (Act 107 of 1998). That there was a duty of care on the Municipality to ensure that the plaintiff does not suffer damage due to pollution of the Trappiesdam stream. In acting as it did, the plaintiff alleges, the Municipality infringed his entrenched environmental and property rights as envisaged in s 24 and 25 of the **Constitution of the Republic of South Africa Act**, 108 of 1996.

20. The Municipality denies that its action or failure to act led to the destruction of the plaintiff's crop or his damages. It denies negligence and in the alternative if found to have been negligent it denies that same contributed to the damages suffered by the plaintiff. It pleads, *inter alia*, contributory negligence on the part of the plaintiff in this way:

“Die verweerder pleit dat die vrekte en/of versuiping van die eiser se lusernplante

plaasgevind het as gevolg van die uitsluitlike nalatigheid van die eiser wie nalatig was in een of meer van die volgende opsigte:

- 10.1 Deur die lusernland te vestig in/op vleivlakte.***
- 10.2 Deur nie te voorsien dat die samestelling en gehalte van die grond waarop die lusernland gevestig word/is sodanig is dat dit nie geskik is vir die verbouing van lusern nie.***
- 10.3 Deur die lusernland te vestig langs die Trappiesdam spruit, welwetende dat die spruit van tyd tot tyd sy walle oorstrom en ook die lusernland sal oorstrom.***
- 10.4 Deur nie te voorsien dat die oorstroming van die lusernland die lusern nadelig kan beïnvloed nie***
- 10.5 Deur 'n wal aan te bring om die vloedwater van die Trappiesdam spruit op die lusernland te vergader.***
- 10.6 Deur die lusernland te vestig op grond wat nie geskik is vir die verbouing van lusern nie.***
- 10.7 Deur nie te voorsien dat die bewerking van die grond van die vleiland die risiko van versuiping van die lusern sal verhoog nie.***
- 10.8 Deur nie stappe te neem om te verhoed dat die risiko van versuiping van die lusern verhoog word tydens die bewerking van die grond van die vleiland nie.***
- 10.9 Deur nie voor en tydens die versuiping die verbouing van lusern op die lusernland die grondsamenstelling te monitor en stappe te neem ten einde die versuiping van die lusern te voorkom nie.***

10.10 *Deur bemesting- en bewerkingsmetodes op die lusernland toe te pas wat die risiko van die versuiping van die lusern verhoog het.*

10.11 *Deur nie stappe te neem om te verhoed dat water uit die Trappiesdam spruit die lusernland oorstrom nie.*

10.12 *Deur die lusernland te besproei op so 'n wyse dat dit die risiko van verdigting van die grond en versuiping van die lusern verhoog het.*

10.13 *Deur toe te laat dat die chemiese samestelling van die grond verander en verswak word deur die bewerking en bemestig van die lusernland*

10.14 *Deur nie voldoende voorsiening te maak vir dreinerings van die lusernland nie en sodanig die risiko van versuiping te voorkom"*

21. Section 24 of the Constitution guarantees everyone a right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

22. The essential elements of a delictual claim in general are (a) conduct initiating wrongfulness, by the defendant; (b) fault by the defendant which may consist in either intention or negligence; (c) harm suffered by the plaintiff; and (d) a causal connection between the conduct of the defendant and the harm suffered by the plaintiff which must not be too remote (unless this limitation is subsumed under the fault element). **See H L & H Timber Products (Pty) Ltd v Sappi Manufacturing (Pty) Ltd 2001 (4) SA 814 (SCA)** at 820E-G para 13; Joubert, **The Law of South Africa (LAWSA)**, second edition, 8 part 1 at 4 and Boberg **The Law of Delict** Volume 1, Juta at 24.

23. In order to succeed with his claim the plaintiff should prove that the lucerne died due to soil compaction caused by the settling thereon of the untreated solids and/or human

waste and accompanying chemicals emanating from the sewerage works. Therefore the onus remains with the plaintiff to prove the wrongful conduct, the harm suffered and the causal connection between the wrongful conduct and the harm.

24. In *The Law of Delict, Volume 1, Aquilian Liability*, Juta, at 30 Boberg commences the topic on a wrongful act or omission by stating that:

“Wrongfulness or unlawfulness is that quality of damage producing activity which makes it an actionable delict. We could dispense with it if we were prepared to say that all harm caused culpably (i.e. intentionally or negligently) is actionable, thus making culpability the sole key to compensation. But this attractive simplification accords neither with reality nor with policy. Nor should it do so. The net of liability would be cast too widely if all harm caused culpability were shifted to the shoulders of him who caused it: social policy requires that some remain where it falls.”

25. It is trite that negligent conduct which manifests itself in the form of a positive act causing physical damage to the property or person of another is prima facie wrongful. See ***Cape Town Municipality v Paine 1923 AD 207***; ***Fourway Haulage SA (Pty) Ltd v SA National Roads Agency Ltd 2009 (2) SA 150 (SCA)*** at 156 para 12. In ***Hawekwa Youth Camp and Another v Byrne 2010 (6) SA 83 (SCA)*** at 90 para 22-23 Brand JA states:

“The principles regarding wrongful omissions have been formulated by this court on a number of occasions in the recent past. These principles proceed from the premise that negligent conduct which manifests itself in the form of a positive act causing physical harm to the property or person of another is prima facie wrongful. By contrast, negligent conduct in the form of an omission is not regarded as prima facie wrongful. Its wrongfulness depends on the existence of a legal duty.

The imposition of this legal duty is a matter for judicial determination, involving criteria of public and legal policy consistent with constitutional norms. In the result, a negligent omission causing loss will only be regarded as wrongful and therefore actionable if public or legal policy considerations require that such omission, if negligent, should attract legal liability for the resulting damages (see e.g. Telematrix (Pty) Ltd supra para 14; Local Transitional Council of Delmas supra paras 19 - 20; Gouda Boerdery Bk v

Transnet 2005 (5) SA 490 (SCA) ([2004] 4 All SA 500) para 12).

The separate test for the determination of negligence is the one formulated by Holmes JA in Kruger v Coetzee 1966 (2) SA 428 (A) at 430E - H. According to this test, negligence will be established if –

'(a) a diligens paterfamilias in the position of the defendant -

(i) would foresee the reasonable possibility of his conduct injuring another in his person or property and causing him patrimonial loss; and

(ii) would take reasonable steps to guard against such occurrence;

and

b) the defendant failed to take such steps."

26. The enquiry into the aforementioned elements of the delictual claim or the liability on the part of the defendant *in casu* cannot commence prior to the determination of the issue of what caused the plaintiff's lucerne to wither and die. To unravel the conundrum behind the bubbling waterlogged lucerne crop and its eventual withering the plaintiff called three expert witnesses: Mr Jacobus Johannes Pieter Swanepoel, Mr Gerhardus De Kock and Professor Christiaan Gruywagen. On the other hand the Municipality called to the stand Dr Wayne Frederick Truter. From these experts' joint report it is common cause that the lucerne would take two weeks to drown if it stood in 25mm-50mm of water for this extended period. They are all of the view that the lucerne on the pivot land drowned. They differ on the underlying cause for the death of the fodder, the quality of the soil and whether the sewerage water caused the drowning of the lucerne.

27. Mr Swanepoel, an agricultural assessor who has handled public liability claims in the field of agriculture for the past 15 years holds several degrees in agriculture. He worked extensively with lucerne in many areas of his employment under different types of irrigation such as flood and pivot irrigation since 1973. He conducted an investigation on the pivot land in July 2007, almost a year following the destruction of the lucerne. He avers that the 10-15 cm top soil of the lucerne land was contaminated. Negating Dr Wayne Truter's report he intimated that there was no chemical buildup,

compaction or saturated conditions on the land or bad irrigation practices which could have drowned the lucerne. In his view 'all appeared to have been normal on the pivot land until February 2006 when something occurred which brought a high level of sodium into the soil resulting in the sudden death of the lucerne pastures'. He relied on a report of the Institute of the Soil, Climate and Water, Pretoria, by Mr Wessel Van Wyk attached to his report.

28. Mr Swanepoel further attaches in his report the four sentence findings of Ms Mariette Truter of the Agricultural research Council, Biosystematics division, Mycology Unit, Pretoria, who concludes that "the type of plant death can be ascribed to chemical toxicity, especially sodium toxicity". Swanepoel explained that a high level of sodium in the soil became hazardous to the plants. His evidence became somewhat less convincing when both Mr De Kock called by the plaintiff as an expert, and Dr Wayne Truter refuted that the sodium level found in the pivot land was of such a degree that it could pulverize the plants. In any event the plaintiff's case is not that his Lucerne died due to sodium toxicity.
29. There are certain aspects of Mr Swanepoel's testimony that are not satisfactory. He was very evasive on a number of issues raised with him under cross-examination and gave long-winded responses which did not answer the questions posed. The methods he used during his assessment of the pivot land were also not scientifically sound. When conducting his assessment on the pivot land he did not use the Global Positioning System (GPS) to mark the locations he collected the samples from. He did not specify the location where he counted the dead lucerne plants neither did he specify locations he drew the soil samples representative of the pivot land. Though he suggested that there were suspended solids in the water that passed through the pivot land this does not feature in his report. Under cross-examination he confirmed that he is not an expert on suspended solids in water or on plants. He also conceded that he made an assumption on this score. While he intimates that there was soil compaction on the pivot land he says it was not necessary to check the level of compaction as the plants' roots 'told it all'. He did not assess if the water pollution could have been on the Trappiesdam stream before it reached the Municipality's oxidation ponds.
30. Mr De Kock holds a degree in Agriculture and an honours degree in Agronomy and Genetics. He has issued numerous publications, 30 of which are on lucerne. He knew the plaintiff before 1985. He also assisted and gave advice to the plaintiff on the

establishment of lucerne on the pivot land in 1985 and signed authorization for him to setup the pivot land where it is currently located. He recommended that the pivot land be built on 4% slope and that a soil embankment (a brim) be erected around it. On 25 April 2009 he conducted an investigation on the pivot land. He maintained that lucerne would not die from normal floods.

31. In the case at hand Mr De Kock could not find any lucerne root deceases. The root relics had a pale yellowish colour which in his view is prominent in the case of drowned lucerne. He found that the soil was dispersed on the surface and filled with organic substances which he attributed to effluent from the sewerage works. In his opinion the probable cause of the lucerne's death was lack of oxygen in the soil caused by the clogging of the soil pores as result of material such as paper, other organic substances and a buildup of carbon dioxide within the soil profile. Contrary to Mr Swanepoel's conclusion he could not find any sodium toxicity in the soil profile. To this end he indicated that there are fields in which the sodium level is higher than that found on the pivot land which yields good Lucerne. Like Swanepoel he counteracted Dr Wayne Truter's report.

32. Professor Gruywagen, of the University of Stellenbosch, holds numerous degrees in Agriculture (animal science and animal nutrition). Around September 2010 he received the white paper-like material for testing from Mr Swanepoel. He had to determine if the amorphous piece of material received was of plant or animal origin. He took a toilet paper as a reference point to compare with the unknown sample under various magnifications (15x and 120x magnifications) and found them to be identical. He concluded that the material was not of an animal origin but toilet paper (soft tissue paper).

33. Dr Wayne Truter, a senior lecturer at the University of Pretoria holds degrees in Agriculture. His thesis in Msc Agric focused on the agricultural utilization of waste products such as the sewerage sludge. He also holds a PhD in environmental science. He conducted an assessment on the pivot land with his assistant. He selected three sites to conduct the analysis. On the property he had 10 observation points selected randomly across the land to acquire a reflective data referencing each point with a GPS for later identification. He took five samples at each point at two depths to eliminate errors. He took the top-soil at 0-30cm depth to give an indication of what was

happening in the root zone and the sub-soil at 30 cm downwards which serves as a memory bank of historical cropping and natural impacts. Naturally nutrients would wash downwards and accumulate at the sub-soil, he stated. Samples taken from the top soil were mixed together and those taken of the sub soil were also separately grouped together.

34. Dr Truter opined that the soil pH (an indication of the acidity or the alkalinity of the soil) does not change overnight. Overall the pH levels of the soils were higher than acceptable for lucerne production. The pH increased over time due to applied land management practices pre-flooding occurrence. The values of phosphorus were below what is optimally required for crop production. Potassium is an important micro-nutrient required for crop production. The values thereof on the land were very high and this could be toxic to the plants. Nevertheless potassium is mobile and would leach to the deeper level. Calcium is also an important micro-nutrient. Its values were very high for both the top and the subsoil although this would not be negative for the plant growth. He intimated that such high values would not happen overnight but was buildup over time. He also found magnesium to be also on a high side.
35. Dr Truter proceeded to explain that the value of the sodium was high for all the sites and this would affect the normal growth of the plants. This was a result of long term chemical buildup which did not happen in the space of a month. He added that agricultural practices puts pressure on the soil and increases its changes of chemical degradation. The soil compaction on the pivot land was still acceptable for plant growth.
36. Dr Truter had regard to the rainfall pattern evinced in Mr Swanepoel's report which ranged between 164mm and 151mm in January and February 2006. He also had regard to the fact that the lucerne stood in the water for two weeks and concluded that the water table must have been above the soil surface and that lucerne died due to the excessive amount of water. High water tables leads to soil saturating much quicker. The soil has over the years become severely degraded chemically. He records that a reduced yield can be expected on a degraded land which cannot only be ascribed to nutrient toxicities but possible physical impedances caused by the degradation of the soil structure through soil chemical build up and occasional disturbances of sensitive soil through cultivation in conjunction with vast amounts of water not draining away but

subduing the vegetation for unusual extended periods of time.

37. Dr Truter disagreed with Mr De Kock that the soil compaction led to the death of the lucerne. The lucerne was not established at an appropriate area but on a natural waterway low lying area. The property is on a flat plane. A typical wetland formation. He opined that soil embankment also contributed to the water remaining on the pivot land. He stated that if the domestic sewage sludge was contaminated by industrial processes heavy metal pollution becomes of concern and there was no evidence to this effect on this score.
38. Dr Truter further explained that the white paper-like material was sent to the laboratory of microscopy and microanalysis at the University of Pretoria. The material was analyzed by a microscopicsts under different magnification. The laboratory determined that it was a high carbon source typical of a plant origin and not synthetic. They could not say if it was toilet paper. He however opined that the paper-like material would not kill lucerne at its prime growth.
39. The unchallenged evidence of Rossauw was that the oxidation ponds were constructed in a way that would make it impossible for storm water in its natural cause to overflow even on tempestuous weather conditions and descend to the plaintiff's lucerne land. This much was conceded by Mr Benade who in his address contended that the plaintiff's case is based on the substandard final effluent flowing out of the last of these oxidation ponds (the irrigation dam) into the catchment dam and discharging its contents into the Trappiesdam stream. Mr De Kock and Dr Truter are *ad idem* that the sewerage effluent has in general beneficial plants growth elements.
40. It is common cause that the Municipality's final effluent is used for irrigation by Dr Rous. During the inspection *in loco* the flotsam and jetsam (plastic bags, bottles and other material) could be noticed along the stream from the town of Colesburg before the stream reaches the Municipality's oxidation ponds area. Therefore a strong likelihood exists that the foreign material that the plaintiff saw on his land may have come from the town of Colesburg. The plaintiff nearly gave his case away under cross-examination when he intimated:

"Mnr Botha: Die vraag is wat is binne in die stroom?

Mnr Van Wyk: Ja u sien dit nie op die film daarso nie, maar wanneer daar nou 'n vloed kom, dan-kyk u moet onthou hierdie is 'n deel van die vloed wat daar afkom as dit kom

vloed. Dan kom hierdie goed saam in Trappiesdam algeheel af, spruit- dan kom 'n klomp goed af. U het gesien hoe lyk dit toe u daar besoek het nou onlangs, toe uself daar was, het u gesien daar langs die weir waar ons gestaan het daar bo. Het u gesien hoe lyk bottles en ander klomp goed, daar is menige klomp goed, dooie honde ook, u het dit gesien. Tot dooie goed, bokke, allerhande goed. Daar kom 'n magdom goed van die dorp se kant af.

Mnr Botha: Maar dis juis die punt-

Mnr Van Wyk: maar nou juis, en ek het reeds met Mnr Rossouw ook geskakel dat ons moet die goed probeer skoon maak.

Mnr Botha: dit is juis die punt daar kom magdom goed van die dorp af.

Mnr Van Wyk: Right, right, right, nou goed wat is die vraag verder?"

41. The evidence of the plaintiff to the effect that following the flood there were plastic bags, bottles, toilet papers, condoms and other filth which originated from the sewerage works is irreconcilable with what he said above and with the further evidence which suggests that the debris does not land in the irrigation dam.
42. Although not specifically pleaded the plaintiff's case is that not only was the lucerne killed by untreated solids and/or human waste with accompanying chemicals but also the suspended white paper-like material. As already alluded to Mr De Kock's observation was that the lucerne drowned in 2006 due the lack of oxygen through the accumulation of material (organic substances which he attributed to effluent of the sewerage works) on its surface which sealed the ground off. That the dispersive action of the soil particles (i.e. the soil particles not in its structural condition) closed the whole soil profile resulting in a buildup of carbon-dioxide. He could not identify what the white film or deposit on the soil structure was. Neither did he take the soil samples nor of the white film observed on the soil for testing. He similarly did not take pictures or record any reading. He was content that there was '*something there that caused the sealing of the soil surface.*' In my view this cannot be enough. Be that as it may, the value of his evidence became debased when he intimated that this white film could have settled on the soil at any period between 2006 and April 2009.
43. Only the plaintiff testified that there was a white paper-like material on his pivot land following the floods of February 2006. On the photo bundle, particularly on pictures taken around 24 July 2007, almost a year after the death of Lucerne, the plaintiff is depicted picking up the white paper-like material in the stream path leading to the weir. Mr Botha, for the Municipality, argued that on this aspect and on numerous others the plaintiff is a single witness who had every reason to gild the lily where necessary,

therefore, his evidence had to be approached with caution. In examination-in-chief the plaintiff testified that in 2006 he kept the white paper-like material he picked up on pivot land. Under cross-examination he states that the white paper-like material were picked up in 2007. He states: *“Ek wil nie graag vat aan die goed persoonlik nie. Mnr Swanepoel het al die monsters en al die goed, die grond en al die ander gevat, die plantery in die grond. Hierdie was ook ‘n deel van die goed wat op die land was.”* On occasion the plaintiff would say that in 2007 when he took the pictures there were no paper-like material on the pivot land and later would change to say there may have been some.

44. Mr Swanepoel testified that when conducting an investigation in July 2007 he did not observe the remnants of the white-paper like material on the pivot land. It needs to be mentioned that Mr Swanepoel tried to demonstrate that the final effluent may have contained suspended toilet paper through an illustration he made in Court of how a toilet paper would dissolve or disintegrate in water. Mr Botha challenged this form of an illustration as lacking any scientific basis or value. Mr Benade conceded that Mr Swanepoel was not an expert on suspended material in water but merely made an illustration to the Court for better understanding. Save the plaintiff's evidence to the effect that he noticed toilet paper on the lucerne field following the floods there is no scientific or expert evidence suggesting that the lucerne field was infested for an extended period with suspended paper-like material. The water sample taken in 1985 does not show any quantity of suspended material content. Neither is there evidence linking the alleged suspended white paper-like material to the Municipality's sewerage works. The plaintiff makes the following statement under cross-examination which is inimical to his case:

“Mnr Botha: Gee u nou toe dat daardie papieragtige stof wat u nou daar so na beduie in die boks, dat dit wel in die Trappiesdam spruit kon gewees het bo die rioolwerke? Is dit nou wat u besig is om te sê?.....

So u is nie nou meer so oortuig dat daai definitief uit die rioolwerke uitkom nie. U gee nou toe dit kon dalk uit die spruit bokant die rioolwerke ook gekom het

Mnr Van Wyk: Kom ons sê so. Die sloot wat deur die dorp loop, ja. Dit kon dalk. Kom ons sê so.”

45. Mr De Kock advanced the argument that according to studies conducted in the USA 22, 4 gram of paper pulp per square meter would be adequate to kill lucerne. There is no evidence indicative of the fact that the flood water that passed over the lucerne land contained any paper pulp and if so in what quantities. If regard is had to Prof

Cruywagen's conclusion that the white paper-like material is toilet paper the question still remains that there is clearly no nexus established that it originated from the final effluent discharged from the irrigation pond.

46. Although an expert is called by a particular litigant he should remain dispassionate, neutral and objective. He should not be influenced as to form or content by the exigencies of litigation. An expert witness is there to assist the Court in arriving at the just decision. See in this regard **Schneider No and others v AA and another 2010 (5) SA 203 (WCC)** at 211J - 212B; **Stock v Stock 1981 (3) SA 1280 (A)** at 1296E-F; **Diners Club SA (Pty) Ltd v Singh and another 2004 (3) SA 630 (D)** at 660F-H.

The following dictum appears in **Coopers (South Africa) (Pty) Ltd v Deutsche Gesellschaft für Schädlingsbekämpfung MBH 1976 (3) SA 352 (A)** at 371G - H:

"As I see it, an expert's opinion represents his reasoned conclusion based on certain facts or data, which are either common cause or established by his own evidence or that of some other competent witness. Except possibly where it is not controverted, an expert's bald statement of his opinion is not of any real assistance. Proper evaluation of the opinion can only be undertaken if the process of reasoning which led to the conclusion, including the premises from which the reasoning proceeds, are disclosed by the expert."

47. Mr Swanepoel tried hard to rescue the plaintiff's case. While the plaintiff's case was that his lucerne was waterlogged for two weeks Mr Swanepoel contradicted him. He confirmed on several occasions that the difference between the highest to the lowest point of the pivot land was 1, 2503 m. He even went to the extent of saying that the plaintiff may have been mistaken with his 12 m difference. When realizing that his version was deadly to the plaintiff's case he changed course to say that the slope of the lucerne field was at 12 m elevation from the highest to the lowest point of the land. He also signed the joint expert report wherein he agreed that the Lucerne drowned. However, strangely, under cross examination he was adamant that the lucerne did not drown. He states for example:

"And I was satisfied that water was coming over on that land, it is normal, it is absolutely normal for rain water, for floods whatever, there is no problem with that. But it never versuip [drown], because it can't stand for more than two weeks under water, so they

didn't 'versuip'.

48. Mr Swanepoel's concerted attempt at assisting the plaintiff as opposed to giving objective evidence does not bode well. LH Hoffmann *et* DT Zefferdt **The South African Law of Evidence** 4th addition at 102 states: *'If an expert's opinion is to carry any weight, it is essential for him to state his reasons. As we have seen, the Court should not ordinarily accept a bald statement of opinion on the very point which it has to decide'*. It is axiomatic that Swanepoel's proposition that lucerne died due to sodium toxicity without laying any basis for this stands to be rejected.
49. Mr De Kock's independence and objectivity must be seen in the light that in 1985 he assisted the plaintiff to establish his lucerne on what appears to be a natural waterway. The perception that he was therefore contributory negligent must have been ever present in his mind causing him to adopt a self-preservation or defensive stance. Hence while the plaintiff's testimony had always been that the lucerne pastures was waterlogged for two weeks, like Mr Swanepoel he refuted the statement. In my view he was not in a position to disagree as he had not witnessed the waterlogged field whereas the plaintiff did. None of the experts visited the property when it was turned into wetland or soon thereafter. They only did so a year or two following the disastrous incident. I do not blame them for the delayed observation or tests because they only reacted to the invitation to perform their expert duty.
50. I am not swayed that Dr Truter's evidence could be merely regarded as theoretical as Mr Benade, for the plaintiff, sought to suggest. Dr Truter visited the pivot land and its surrounding areas and made assessments based on what he found. I am satisfied that the methods he employed in collecting the data and conducting the analysis were sound. I have no reason to doubt the veracity of his scientific investigation and the credibility of his testimony.
51. Dr Truter suggested that the general slope of the pivot land was nowhere near the 1.2 meters as Mr Swanepoel initially sought to point out or 4% gradient (12 m gradient from one side to the other). He found the lowest point to be 1,301m above the sea level while the highest point was at 1,304 m. There were areas lower than this as a result of the soil depressions. The field was a lot uneven. To exacerbate matters the plaintiff built the soil embankment thereon on the recommendations of Mr De Kock. This created a dam situation on the field and made the water drainage on the land

difficult. When the land became flooded the plaintiff did not open the sluice gate for the soil embankment to ease the high water levels because in his words :

“Die substance is hierdie klomp gemors, wat sal dit nou help ek maak oop daar? En daai gemors, wil u gaan werk in daai klomp gemors. Dit stink man. Dit is ‘n gemors daarso. Ek gaan nie in ekskuus tog ek gaan nie werk in daai tipe goeters nie.”

52. In the final analysis, and having regard to the rainfall pattern at the time the probabilities are such that the water-table must have been very high. There is no question that the lucerne would die if it stood in 50mm of the water for a period of two weeks. As the experts suggest, it does not take polluted water to kill the lucern. If the lucerne is submerged in the clean water for weeks it would still die.

53. The following dictum appears in ***International Shipping Co (Pty) Ltd v Bentley 1990 (1) SA 680 (A)*** at 700E - I.

‘As has previously been pointed out by this Court, in the law of delict causation involves two distinct enquiries. The first is a factual one and relates to the question as to whether the defendant’s wrongful act was a cause of the plaintiff’s loss. This has been referred to as ‘factual causation’. The enquiry as to factual causation is generally conducted by applying the so-called but-for test, which is designed to determine whether a postulated cause can be identified as a causa sine qua non of the loss in question. In order to apply this test one must make a hypothetical enquiry as to what probably would have happened but for the wrongful conduct of the defendant. This enquiry may involve the mental elimination of the wrongful conduct and the substitution of a hypothetical course of lawful conduct and the posing of the question as to whether upon such an hypothesis plaintiff’s loss would have ensued or not. If it would in any event have ensued, then the wrongful conduct was not a cause of the plaintiff’s loss; aliter, if it would not so have ensued. If the wrongful act is shown in this way not to be a causa sine qua non of the loss suffered, then no legal liability can arise. On the other hand, demonstration that the wrongful act was a causa sine qua non of the loss does not necessarily result in legal liability. The second enquiry then arises, viz whether the wrongful act is linked sufficiently closely or directly to the loss for legal liability to ensue or whether, as it is said, the loss is too remote. This is basically a juridical problem in the solution of which considerations of policy may play a part. This is sometimes called legal causation.’

54. The plaintiff who bore the onus failed to establish that the wrongful conduct on the part of the Municipality led to the eventual end of his lucerne crop. Even if the Municipality’s

conduct was not what one would expect from such a responsible organ of state, I am nevertheless satisfied that no nexus has been established between the poor management of the municipal sewerage plant or oxidation ponds and the damage, if any, suffered by the plaintiff. In the light of my finding it follows that the issue of the plaintiff's contributory negligence should fall away.

55. In the result the plaintiff's action must be dismissed with costs, which must follow the outcome.

ORDER:

The plaintiff's claim is dismissed with costs which must be taxed on a party and party scale, such costs to include the qualifying fees of the expert witness, Dr Wayne Frederick Truter.

MV PHATSHOANE

JUDGE

NORTHERN CAPE HIGH COURT

<i>On behalf of the plaintiff</i>	<i>Adv H Benade</i>
<i>Instructed by</i>	<i>Duncan G Rothman</i>
<i>On behalf of the Defendant</i>	<i>Adv CH Botha</i>
<i>Instructed by</i>	<i>Du toit -Bomela</i>