A LAYMAN'S QUEST FOR THE LOGIC BEHIND OPPOSITION TO LEGALISING TRADE IN RHINO HORN

I have always felt a deep love and fascination for rhinos. Growing up in Zululand at the time of *Operation Rhino Translocation* and having experienced an exhilarating close encounter with a rhino when I was 13, I developed a life-long appreciation for these magnificent prehistoric looking giants.

So, when I re-connected with an old school friend, international conservationist Lawrence Anthony, seven years ago, I was naturally intrigued to hear about his efforts to save the Northern white rhino from extinction. As I listened to him describe the challenges surrounding the project it began to dawn on me just how dire the plight of these amazing animals had become.

 I was moved by his fervour and decided to apply my somewhat unconventional thinking to help save the rhinos from annihilation. Although conservation is not my profession, it is my passion but I am also a scientist, strategist, business person and part-time academic and it was these skills I've gained from a lifetime's experience of varied roles that I would apply to try and solve this problem.
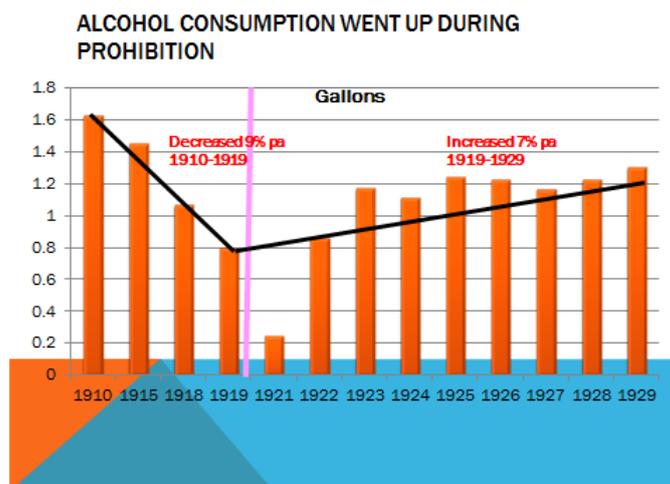
As I began to survey the body of evidence I couldn't help but think of an Einsteinian quote, "The definition of insanity is doing the same thing over and over again and expecting different results". However, the more I looked into it, the more I saw that this was precisely what we seemed to have been doing when it came to saving our rhinos, with devastating results.

The ban on trading rhino horn was imposed by CITES in 1977 but poaching continued to escalate unabated. 38 years later the evidence shows that the ban has not achieved its objective. Just as Lawrence had predicted so many years before, once the easy pickings of the rhino to the North of us were exhausted, the poaching war migrated to our borders (Anthony, 2012). The scourge of poaching has steadily escalated until it is now at alarmingly unsustainable levels. Efforts to combat this absorb an inordinate amount of money, conservation attention and resources with little positive effect.

Further to this, as a result of the escalated poaching, many current rhino owners feel the costs and risks of owning rhino no longer hold any positive incentives, threatening the range expansion and population increases that have been achieved so far.
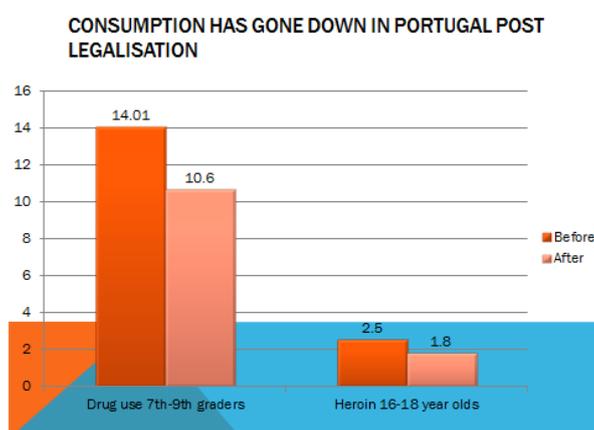
It is increasingly obvious that despite the best efforts of many passionate and dedicated people, the old approach of prohibition is simply not working and yet these self-same people still insist on doing 'more of the same' and hoping for a different result. For the sake of the rhinos, I needed to understand why this was.

I began by studying the economics of criminals and researched the patterns of behaviour that resulted from banning and unbanning had I began to see a controversial but consistent outcome: bans or prohibitions have simply not had the desired effect. In fact they often have the opposite effect; the prohibition of alcohol in the USA not only reversed the trend of declining alcohol consumption but also provided the breeding ground for criminal elements like the Mafia to profit and become a formidable criminal organisation.

ALCOHOL CONSUMPTION WENT UP DURING PROHIBITION

Gallons

Decreased 9% pa 1910-1919

Increased 7% pa 1919-1929

1910 1915 1918 1919 1921 1922 1923 1924 1925 1926 1927 1928 1929

(Thornton, 1991)

Meanwhile, studies show that unbanning has led to decreases in consumption, as demonstrated by the legalisation of drug use by Portugal in 2000.

CONSUMPTION HAS GONE DOWN IN PORTUGAL POST LEGALISATION

14.01

10.6

Before
After

2.5

1.8

Drug use 7th-9th graders   Heroin 16-18 year olds

(Greenwald, 2009)

However, many respected individuals still feel legalising trade in rhino horn would be foolish and irresponsible. I still couldn't understand why when the evidence suggested that legalising trade would provide a practical, sustainable and humane solution for supplying the current demand while at the same time buying time to allow awareness campaigns to begin taking effect.

I was genuinely pleased when Yvette Taylor, of the Lawrence Anthony Earth Organisation, sent me an academic working paper by two Mexican economists titled: "*Leonardo's Sailors*", *A Review of the Economic Analysis of Wildlife Trade* (Francisco Aguayo, Nadal, Alejandro, 2014). It was 41 pages long -surely this would provide me with a comprehensive and logical argument to explain why people were so steadfastly opposed to legalising trade in rhino horn.

Leverhulme Centre for the
Study of Value

LCSV WORKING PAPER SERIES NO. 6
Leonardo's Sailors
A Review of the Economic Analysis of Wildlife Trade
Alejandro Nadal

Francisco Aguyao June 2014
The Leverhulme Centre for the Study of Value
School of Environment, Education and
Development
The University of Manchester

As I read *"Leonardo's Sailors"* I felt the beginnings of frustration and perhaps even a little despair. The arguments were disjointed and inconclusive and no matter how many times I studied the paper I couldn't wrap my mind around what I felt was flawed reasoning. A little while later I managed to acquire a video by one of the authors, Francisco Aguayo, presenting their case (F. Aguayo, 2014) to the International Rhino Coalition's 2014 conference on the *Risks of Legal Trade in Rhino Horn*.

He presented a seemingly powerful line of reasoning addressing the question of removing the ban on rhino horn trade and reverting to trading, saying he would use the test of whether a legal trade in rhino horn would make the illegal trade unprofitable and therefore reduce poaching.

He argued that their 'extensive research' had shown that it would be wrong to legalise trade as:
- we had too little knowledge about the market,
- the pro-trade arguments had a weak command of economic theories and only held for rigid conditions;
- the theory did not explain market dynamics.

He went on to say that there are many other safer bets rather than legalising trade. However, he only identified one such 'safer bet'; a substitute for rhino horn. He then finished off by baldly stating that legalisation would only strengthen illegal trade.

It sounded persuasive but he hadn't actually presented his analysis, so it was back to the 41 page working paper.

It was then that I realised that a large part of my problem with the paper was that it simply didn't do what it promised. It sets out to review the economic analysis of wildlife trade but unfortunately it ignores the relevant economic lessons of real life. It further promises to analyse both legal and illegal trade but then only dissects pro-trade articles.

The analysis looks for any small flaw or constraint with regards to legalising trade and dismisses the reasoning as worthless if they find ***any*** problem – no matter how immaterial.

I found myself asking if this is reasonable? Can all these arguments be dismissed because they do not provide a complete answer or because there is some uncertainty about the outcome under all conditions?

This is something I have come across before. "Rocket Science" is used as short hand for a difficult but precise way to calculate the trajectories of heavenly bodies' and rockets'. As a first year science student I was amazed to learn about the '3 body problem'. If there are more than 2 bodies interacting there is no easy way to predict a rocket's or a heavenly body's movement. However, we regularly use this imperfect frame work of Newtonian mechanics to launch satellites where there are far more bodies (think earth, moon, sun, planets, meteorites, comets etc).
Recently we achieved a close 'fly by' by New Horizons of Pluto (over 4 billion kilometres from earth at its nearest) and landed Rosetta on a comet hurtling along at 135 000 kilometres per hour using this flawed set of equations.

How have rocket scientists achieved this? Practitioners use the best theoretical frameworks they can find and then try these out in practice. There have been mishaps along the way but they have continued to feed their learning into the debate while their more academic colleagues have argued over the more theoretical details in their rush to 'publish or perish'.

This example from one of the more precise sciences demonstrates that even if a model is not absolutely correct in all circumstances, it can be extremely useful to predict outcomes in practice especially when used alongside practical experiments. Why can't we do this for the horn legalisation issue?

Nadal and Aguayo conclude that "trade models using partial equilibrium have nothing to offer in … [describing] … market processes". They might want to tell that to the rocket scientists!

The second half of the paper concludes that there is insufficient information available to take a decision to legalise trade. The authors state that data on demand in illegal markets is difficult to obtain but they still advocate doing so first.

Their suggestion *might* be theoretically correct, but time is a factor and if we wait for funds and then the lengthy process of data gathering, it might well be too late for the rhino. Surely the use of a controlled experiment by a strictly regulated legalised trade would be the logical way to go? It would be quicker, self-funding and would convert at least some of the value of rhino horn stockpiles into funds that could be used towards anti-poaching activities.

It is unfortunate that "*Leonardo's Sailors"* doesn't examine any anti-trade models despite undertaking to do so. This is certainly not because arguments are not available as Dex Kotze's (Kotze, 2014) anti-trade arguments from the same conference were not subject to any analysis at all.

With a real sense of disappointment I concluded that although it seems superficially impressive, the lack of a logical flow and the disjointed arguments make "*Leonardo's Sailors* almost unreadable and of very little merit in a crucial debate.

Saving our rhinos is a problem that requires our most serious contemplation. It asks us to courageously apply unbiased logical analysis, no matter how controversial, in order to apply real, lasting solutions to an increasingly urgent problem.

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