

Shaping the future of the bee industry – A summary report

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Introduction

This report summarises a policy development process which began more than two years ago with the request for a section 7 review of beekeeping in South Africa. In particular we report on the data collected in the run-up to BEECON 2008, data generated during the conference and decisions taken at it.

Background

The purpose of BEECON 2008 was to develop a mandate for SABIO's board to implement recommendations from the NAMC section 7 report on the bee industry which appeared in February 2008. This report had 24 concrete recommendations ranging from institutional arrangements to research and marketing. While extremely useful and generally valid, it is an overwhelming list for which SABIO has neither the funding nor the manpower to implement. Before any further action could be taken, this list needed to be reviewed by industry beekeepers and prioritised into a manageable list for the board to take forward.

A pivotal point on the list was whether or not to collect a statutory levy. While the political science literature is crystal clear that pressure groups require statutory funding in order to be effective, only 53% of beekeepers surveyed indicated that they declare all their honey income to SARS. For the remainder of respondents beekeeping is often a hobby that occasionally generates a surplus for sale. Many beekeepers therefore against a statutory levy, or tax, on principle alone and several fear that declaring the extent of their beekeeping business would make them visible to the receiver of revenue, or more importantly, to fellow beekeepers. The secretive nature of beekeepers behaviour stems from the need to safeguard the position of their apiary site. This is in order to avoid competition at a particular site for which no property rights currently exist. At least one beekeeper suggested that taxing apiary sites would be "silly" since at least half his hives are kept deep into the mountains where nobody will ever find them. Thus, it was not only the principle of statutory levies that was at stake but also the funding mechanism was hotly debated. Together with the fact that just over a quarter of beekeepers operate on their own land, means that the size of the industry is highly debatable and very difficult to establish.

Furthermore, the bee industry has a hundred year history of operating as a federation of regional beekeeping associations. These local associations funded the work of the federation, which met only occasionally to discuss industry concerns with the minister of agriculture. The regional associations continue to exist and are currently the product of individual energies and commitment that pay very little attention to national strategies. In several cases such energies are lacking and not much regional activity occurs. In contrast the national body, SABIO, is young and not particularly forceful mainly because the private cost of running a national body is far higher than running a local body while any benefits that may arise from collective action are dissipated over a far larger constituency (Coase, 1960). This complicated history means that getting buy-in is an ongoing process of balancing specific, local, individual views and needs with a more inclusive national strategy with is consistent with the views of the silent majority.

Process for responding to the NAMC report

The first step in responding to the NAMC section 7 report was to conduct a national survey of beekeepers in order to update the findings of last national survey conducted during the mid 1970s. Using a sample of 500 current and recent SABIO members, we received an initial response rate of 23% including a single non-response due to change of address of SABIO member. Further pleas made at BEECON 2008 increased the sample size marginally to 24% of the original sample.

The descriptive statistics collected in this survey was analysed and summarised and reported on at BEECON 2008 (Conradie & Nortje, 2008). Conference participants were generally very interested in the statistics and we eager to voice their opinions. While there were strongly divergent opinions with regards to specific estimates, we received no negative feedback from participants. A comparison between the national survey sample and the sample of conference participants show that the latter includes more commercial beekeepers. Using a hundred hives as a lower limit for commercial beekeepers, the national survey included 66% hobbyists compared to 44% in the sample of conference participants.

After describing the current state of beekeeping in South Africa, we explained the advantages and disadvantages of statutory organisation, and briefly discussed the individual NAMC recommendations. At the end of this session, we administered an anonymous questionnaire to establish support for individual recommendations, which are discussed under findings below. Results of this questionnaire were presented to the conference after which four SABIO board members lead discussions on training & transformation, marketing & honey standards, forage and institutional matters, which are summarised under decisions.

In prioritising the NAMC recommendations, the industry made great progress towards implementation, but it should be recognised that much still remains to be done in order to turn the recommendations into practical action. Any industry decision must take into account the opinions of every one in the industry regardless of duration of tenure or size of operations. An insider, privy to the Governmental process, such as

Mike Allsopp, is potentially incredibly valuable to the industry provided that the industry ensures that his views are representative of the entire body of beekeepers rather than of a small group of vocal individuals.

Findings

Initial results to the national survey appear in Conradie & Nortje (2008). One of the most controversial aspects of beekeeping is the size of the industry. SABIO estimates that there are 1970 beekeepers, of which 45% of the headcount is based in the Western Cape.

Support for a statutory levy

Support for a statutory levy is summarised in Table 1. There is no statistical difference between large and small beekeepers with respect to a) support for a statutory levy, b) whether or not hobbyists should be exempted from the levy or c) which basis the levy should be collected.

Table 1: Support for a statutory levy

	Large	Small	All
Are you in favour of a statutory levy?			
Agree or strongly agree	65%	72%	68%
Disagree or strongly disagree	19%	3%	12%
Should hobbyists be exempted?			
Agree or strongly agree	16%	31%	21%
Disagree or strongly disagree	59%	55%	59%
Which of the following is most feasible?			
Agree or strongly agree with none	22%	15%	17%
Agree or strongly agree with hive tax	28%	31%	29%
Agree or strongly agree w. apiary site tax	19%	35%	29%
Agree or strongly agree with honey tax	31%	15%	24%

More than two thirds of the sample supported statutory levies, while only 12% of respondents were opposed or strongly opposed to a statutory levy. Most respondents feel levies should apply to hobbyists in the same way as they apply to commercial beekeepers; 21% of the sample agree or strongly agree with exempting hobbyists, while 59% of the sample is against or strongly exempting hobbyist. As can be expected, there is slightly but not statistically significantly more support for exempting hobbyists amongst small beekeepers, the majority of whom describe themselves as hobbyists. It is far more telling though than more than half of the small

beekeepers are against exempting hobbyists. In four out of five cases respondents describe hobbyists in terms of the number of hives they have; 49% of the sample feels that a hobbyist is a person with less than 50 hives and 29% feels that only beekeepers with less than five hives each should be considered hobbyists.

Support for other recommendations

With the exception of the recommendation to re-evaluate import tariffs most other recommendations were also strongly supported. Table 2 ranks recommendations from most important to least important, with a statutory levy as number 19. Table 2 also shows the proportion of large and small beekeepers who agreed or strongly agreed with each recommendation. The results clearly indicate that the majority of the recommendations find significant support from beekeepers, and that such plans generally get stronger support from small beekeepers than from large beekeepers.

According to Table 2 the most important goal for the bee industry is to build awareness around honey quality standards. This recommendation was supported by 95% of commercial beekeepers and 93% of hobbyists. There are two possible explanations for this finding, namely that local honey prices are compromised by dumping of inferior quality foreign honey or that local producers are simply not rewarded for superior quality. We asked two additional questions, the results of which would potentially shed more light on this matter. The first question is whether or not beekeepers receive a fair price for their honey. We know that most beekeepers are price takers in the wholesale market for honey but they charge a wide range of prices in many localised retail markets. The data shows that only 46% of large beekeepers and 28% of small beekeepers agreed or strongly agreed with this statement. Workshop discussions did not probe this finding and consequently we do not know exactly how it relates to quality issues. When asked if they consider cheap honey imports to be a threat to their business, 86% of small and 84% of large beekeepers indicated agreement, so it could very well be that emphasising the high quality of local honey is an important way of protecting local beekeepers against international competition.

Linked to this, beekeepers identified control of imports and exports to be the second most important priority for the industry. It is supported by 83% of small and 95% of large beekeepers. Clearly smaller honey producers find it easier to off load their produce into localised niche markets while large producers have to compete more directly with imports. Thus more of the large beekeepers emphasise the need for a honey testing facility (priority 9) than small beekeepers, which confirms the idea of using superior quality as a strategy to protect one-self against imports. It is curious that while beekeepers feel so strongly about controlling imports and exports, they put relatively low priority on the bee industry being represented on the Agricultural Trade Forum (priority 12) which was supported by 82% of hobbyists and 81% of commercial beekeepers. Evidently while most beekeepers feel about strongly about the principles of fair trade, they either do not know or could not care how it is implemented. This points to the need for a strong organisation to act on behalf of the industry.

Table 2: Policy priorities for the bee industry

	Average	Supported* by Large	% of Small
Build awareness of honey quality standards	4.63	93%	95%
Regulate honey imports & exports	4.61	83%	95%
Review CARA legislation wrt Eucalypts	4.54	90%	86%
Secure government funding for research	4.43	93%	89%
Compile industry statistics	4.43	97%	83%
Remove inconsistent laws	4.35	97%	83%
Steer research	4.34	93%	89%
Draft integrated Beekeeping Act	4.33	93%	83%
Establish competent honey laboratory	4.27	83%	89%
Secure other funds for research	4.26	89%	84%
Develop niche markets	4.19	90%	78%
Be represented on Agric Trade Forum	4.13	82%	81%
Assess feasibility of new projects	4.13	76%	89%
Liaise with forestry industry	4.11	79%	81%
Liaise with DWAF	4.06	76%	78%
Coordinate training	4.04	71%	78%
Get NQF accreditation for bee courses	3.97	90%	73%
Reconstitute SABIO's board	3.97	76%	75%
Statutory levy	3.89	72%	65%
Generic advertising	3.81	79%	62%
Appoint dedicated extension officers	3.78	82%	65%
Develop an industry food safety plan	3.91	67%	68%
Give money for transformation	3.40	59%	42%
Remove import tariffs	2.01	14%	16%

* agree & strongly agree with

Priority 3 as identified by beekeepers is to review the position of Eucalypts in the CARA (Care of Agricultural Resources Act), which was agreed or strongly agreed with by 90% of small and 86% of large beekeepers. The national survey confirms Allsopp & Cherry's (2004) result that the majority of honey produced in South Africa derives from Eucalyptus trees and that without it the industry will suffer serious losses. BEECON participants estimate that while a third of respondents would lose no hives, 19% would lose more than 80% of their colonies if all Eucalypts were removed. Given the importance of Eucalypt forage, it is interesting that the two other forage recommendations (liaising with DWAF and the forestry industry) were relatively low down on the list of priorities for beekeepers.

According to Table 2 the fourth most important priority was to secure government funding for research. This is interesting (and potentially misunderstood) given that securing other sources of funding for research only came up in the eleventh place. In response to the question whether participants thought it necessary that bee research is conducted locally, a surprising 100% of hobbyists and 95% of commercial beekeepers agreed that it was necessary to do research locally. Respondents also generally feel that SABIO ought to be involved in steering such research which was supported by 93% of small and 89% of large beekeepers as priority number 7. While the initial anonymous vote (reported in Table 2) clearly found that beekeepers think that government ought to fund research, it was said in no uncertain terms that the best the industry could hope for was matched funding from government.

Priorities 5, 6 and 8 refer to institutional arrangements. For example, 97% of small and 83% of large beekeepers agreed or strongly agreed that the industry should collect statistics and review existing laws with the aim of removing inconsistencies, while 93% of small and 83% of large beekeepers identified the need for an integrated beekeeping act.

There is much more that could be said about the results in Table 2, but just two things are important. First, possibly the strongest result in Table 2 is that rank and file beekeepers are strongly opposed to removing import tariffs. Given the move towards freer trade, it might just be a matter of time before import tariffs go, regardless of what beekeepers want. Nonetheless, the issue of import tariffs is probably the strongest finding emerging from BEECON 2008 and it ought to be taken seriously, even if only to the extent that the industry develops a set of quality standards for imported honey. Finally, while the NAMC were quite thorough, the list is simply too long to be of practical significance. This is not to say that priorities 5 to 24 are unimportant; just that they are not necessarily the place to begin.

Eighty twenty principle

The previous section has used large and small with arbitrary cut off a hundred hives to distinguish between hobbyists and commercial beekeepers. Table 2 below compares the size distribution from the national survey (Conradie & Nortje, 2008) with the size distribution of beekeepers at the conference, and finds that proportionally more large beekeepers attended the conference while hobbyists were under represented. In the national survey 17% of the largest respondents produced 64% of the output, compared to the BEECON sample where 42% of the largest beekeepers producing 85% of the output.

These results have important implications for the next section, where we try to establish size of the tax base. According to the national survey one could exempt 39% of the smallest beekeepers and reduce the tax base by only 7%. The reduction is similar for the second sample where a 38% reduction in the number of beekeepers would only reduce the tax base by 6%.

Table 2: Beekeepers and hives by size of operation

Size	Hives managed				
	< 30	30 – 100	101 – 300	301 – 750	> 750
<i>National survey – 112 respondents</i>					
Responses	44 (39%)	30 (27%)	19 (17%)	8 (7%)	11 (10%)
Estimated hives	1320 (7%)	1950 (10%)	3800 (19%)	4200 (22%)	8250 (42%)
<i>BEECON participants – 71 respondents</i>					
Responses*	10 (15%)	15 (23%)	9 (14%)	12 (18%)	16 (24%)
Estimated hives	300 (1%)	975 (5%)	1800 (8%)	6300 (29%)	12000 (56%)
Avg. hives	30	65	200	525	750

* BEECON was attended by 4 people who are involved with the bee industry but do not keep hives

Size of the industry

Estimates of the size of the industry vary substantially based on which of the few available statistics one believes. According to SABIO, the industry consists of 1790 beekeepers who manage 106 000 colonies that produce 3229 tons of honey. The Western Cape contributes 800 beekeepers (45%) and 950 tons (29%) to the total. Assuming that SABIO's number of beekeepers is correct, the national survey indicates a total industry of more than a 310 000 colonies, which in theory ought to produce in the region of 7800 tons of honey per annum. Argued from the other side, 19.5 thousand colonies is 18.4% of 106 000 hives, which imply a total population of about 600 beekeepers.

There is some support for the latter view in Allsopp & Cherry's (2004) report on the extent of beekeeping in the Western Cape. They put the total population of beekeepers in the Western Cape at around 361, which if the Western Cape makes up 45% of the total, implies a national population of just over 800 beekeepers. Alternatively, with an estimated total of 800 beekeepers, the sample of 19520 hives obtained from 112 beekeepers, indicate a domesticated honey bee population of 140 000 hives. To further complicate matters we have two competing estimates of average annual yield. SABIO quotes an average of about 25 kilograms per hive per annum which is confirmed by data from the national survey, but according to Allsopp & Cherry (2004) average yield for the Western Cape is substantially lower at around 14.3 kilograms per hive per annum.

Estimates of total honey production vary hugely with estimates of the number of colonies under management and estimated average yields. The lower limit of about 1500 tons is derived from Allsopp & Cherry's average yield and estimate bee population of 106 000 hives. This is very low compared to the amount of honey traded in the formal honey market. On the high side, one could assume that 140 000 hives produce 25 kilograms each per year, in which case South Africa's likely honey output is in the order of 3500 tons. There is every reason to believe that while SABIO's estimate of the total colonies under management might be somewhat conservative, their estimate of the total number of beekeepers is very optimistic, and therefore that the honey unlikely to be anywhere close to the 7800 tons suggested by the sample if based on 1790 beekeepers.

Decisions taken

The most important decision taken at the meeting was the unanimous decision to give SABIO's board the mandate to apply for a statutory levy. The unanimity of this decision does not necessarily contradict the mix results obtained in the anonymous vote, since participants were given substantial additional information that may have convinced them to support the later vote. While it was left up to the board to implement what ever funding mechanism it saw fit to use, but it must be noted that there was wide support for two types. The first of these was a tax on apiary sites, which has the advantages of being easy to enforce once GIS coordinates are logged, and if couple by exclusive rights, of providing an incentive to beekeepers to participate in the act. The alternative, a tax on commercial honey, was strongly supported by some participants on the grounds that it can be collected close to the point of sale where the participation of beekeepers is not needed, automatically extends to imported honey and will immediately extend to more than 80% coverage if only the large supermarkets and the main processors are involved. The main concern which a honey tax was that sufficient coverage would not be possible with honey traded in the formal market alone. In contrast, implementing an apiary site tax would have been substantially more difficult since it would have required a working definition of an apiary site that automatically accounted for difference in carrying capacities.

In further deliberations the board decided, that while exclusive rights to apiary sites were a good idea to resolve forage conflicts, and while it might even be a future source of revenue, a tax on apiary sites should not be pursued in the short run. Further decisions at this meeting included to a) enforce the registration of all beekeepers, b) regularly collect data, c) apply for a statutory levy on honey, d) mark apiary sites, e) require SABIO registration numbers on labels, and f) apply for NQF accreditation of at least one beekeeping curriculum. The board was initially divided on whether to first pursue exiting legislation to get beekeepers registered or to wait with registration until a statutory levy was obtained. It seems as if consensus was reached to first write the integrated act would include statutory levies before an attempt will be made to bring the previously unregulated into the fold. In addition, the magnitude of the honey tax will depend on SABIO's budget which is to be finalised.

Conclusion

The policy recommendations described here were reached via a consultative process that involves all relevant stakeholders and upholds the basic principals of democracy, equity, and participation as outlined in the South African Constitution. Consequently it should be taken seriously as the voice of the majority and be worked towards to improve the industry.

References

- Allsopp M. and M. Cherry (2004). An assessment of the impact on the bee and agricultural industries in the Western Cape of the clearing of certain Eucalyptus species using questionnaire survey data. www.sabio.co.za
- Coase, R.H. 1960. The problem of social cost. *Journal of Law and Economics* 3: 1–44.
- Conradie B. and B. Nortje. Survey of beekeeping in South Africa. CSSR working paper 221. www.cssr.uct.ac.za