Home Office

Crime Reduction & Community Safety Group

Tilley Awards 2008 Application form

Please ensure that you have read the guidance before completing this form. ***By making an application to the awards, entrants are agreeing to abide by the conditions laid out in the guidance.*** Please complete the following form in full, within the stated word limit and ensuring the file size is no more than 1MB. Failure to do so will result in your entry being rejected from the competition.

Section A: Application basics

1. Title of the project **Crime Prevention, Glens of Antrim**

2. Key issue that the project is addressing: **Rural Crime**

Author contact details

3. Name of application author: **Sergeant Colin Shaw**

4. Organisation submitting the application: **Moyle Area Command, H District, PSNI**

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Secondary project contact details

8. Name of secondary contact involved in the project: **Dr Adrian Allen (Agri Foods and Bio-Science Institute)**

9. Secondary contact email address: **Adrian.Allen@afbini.gov.uk**

10. Secondary contact telephone number: **028 90 519424**

Endorsing representative contact details

11. Name of endorsing senior representative from lead organisation: **ACC J A HARRIS**

12. Endorsing representative's email address: **drew.harris@psni.pnn.police.uk**

13. For all entries from England & Wales please state which Government Office or Welsh Assembly Government covers your area e.g. GO East Midlands: **Not Applicable to PSNI**

14. Please mark this box with an X to indicate that all organisations involved in the project have been notified of this entry (this is to prevent duplicate entries of the same project):

X

Section B: Summary of application - *In no more than 400 words use this space to provide a summary of your project under the stated headings (see guidance for more information).*

Scanning:

In Northern Ireland, 1488 sheep have been reported stolen over 3 years. The Moyle area has the highest concentration of sheep in Europe. In the last three years, 370 sheep have been stolen in 10 incidents; this represents almost 25% of the Province's sheep thefts. The area is largely rural and due to the methods of farming, detection of offenders has been hampered by the lack of individual identification of animals. Compared to cattle, sheep are considerably less valuable and no cost effective identification method was available to prevent their theft.

Analysis:

The numbers, locations and quality of sheep being stolen were examined. Community intelligence and information was sought from the local farming community and the Department of Agriculture and Rural Development, Veterinary Division. Using the local vet, farmers were encouraged to report thefts. Advice was sought from Farmers Unions, the Agri Food and Bio Sciences Institute (AFBI), the Agricultural College and the Datatag Company.

Response:

The Initiative has three strands, aimed at preventing and detecting crime and increasing public confidence in the Police. The first involved AFBI and Dr Adrian Allen in carrying out a pilot scheme using Optibrand scanners to scan the retinal image on a sheep's eye. This effectively "fingerprinted" each animal and provided a biometric identification. The second strand of the scheme dealt with property marking of Trailers, Quads and Tools. In partnership with Datatag, Transponder technology has been applied, coupled with an effective signage system. The third strand of the scheme has been the introduction of a text messaging system to alert farmers of suspicious activity in the area. The scheme has involved the Moyle Community Safety Partnership, the local farming community, AFBI, PSNI and Datatag.

Assessment:

The scheme has been successful locally as there have been no sheep thefts, trailer, quad or tool thefts since the roll out. The scheme has been well publicised. 3'000 sheep have been scanned as part of the process and 98 subsidised Datatag kits have been fitted. The text scheme is in place. The practical problems of scanner use have been identified and DARD officials are quoting the Glens scheme as evidence of good practice. They have requested powers in Legislation from the Agriculture Minister at Stormont to allow them to use this biometric identification method. Public confidence in police has increased among the farming community in the Glens area. Feedback from farmers is positive.

State number of words: 397

Section C: Description of project - *Describe the project in no more than 4,000 words. Please refer to the full guidance for more information on what the description should cover, in particular section 12.*

Scanning:

Moyle consists of 186 squares miles and yet only has 16,000 inhabitants, less than 1% of the Province's population. It has on average between 800 to 1,000 crimes per year. A large proportion of the area is rough farming land. Many inhabitants are full time or part time sheep farmers. Over the past three years, 370 sheep have been stolen in the area in 10 reported incidents, this represents 24.8% of the reported sheep thefts in Northern Ireland. In livestock value, this represents around £29,600. If young breeding stock is stolen, at an average of 1.5 lambs over 5 years, this represents a potential loss in Moyle alone of £251,600. Within Northern Ireland, over the same period of time, there were 68 reported incidents with a total of 1,488 sheep reported stolen. These figures show that the thefts in Moyle involve the theft of larger numbers over fewer incidents, thus more impact on the victim. In the context of Moyle's low crime rate, these 10 incidents have a greater impact on the "fear of crime" in this rural and isolated setting. In one incident, almost 100 sheep were stolen from one farmer. Theft tended to be from some larger farmers who had spent time since the "Foot and Mouth" Slaughter, rebuilding quality breeding stock from Scotland and England.

These figures reflect reported theft only and discussions with farmers have revealed that many more have gone unreported for a variety of reasons. Government, up to last year, had no marking system for sheep. Traditionally, farmers have used ear tattoos, horn brands or a system of fleece marking. Last year, flock ear tags were introduced, however in the inhospitable terrain in the Glens of Antrim, the loss of tags has proven to be impractical. The majority of sheep in the area are Scottish Blackface, a hardy mountain breed for the often harsh Glens conditions. The value of each sheep is around £80 each at market. The farmer's profit margin is slim. A solution to the problem needed to be inexpensive.

Other identification solutions were investigated. Feeding of a Bolus was expensive. Datatag also explored the use of an injectable transponder into the animal's neck. (Similar to "chipping" a dog.) This was not workable either as it was discovered that the transponder had a tendency to migrate within the animal's body and was contrary to EEC regulations as it had the potential to enter the food chain.

Farmers in the area are dependant on their neighbours to help them. During Spring and early summer, the majority of female stock is moved to the mountaintops to graze and roam freely with other farmers' stock. They are frequently checked and as "home grown" stock, they tend to circulate within the same area. At the end of autumn, the Ewe's are gathered up and separated. A few will have died on the hill and others may have strayed beyond broken fences etc. This system has been employed for over 100 years and it relies on the honesty of the individual farmers. The ownership identity of these animals is most vulnerable at this time.

This scheme also deals with the theft of Quads Bikes, Trailers and Tools. The publicity of the scheme, the high profile marking of equipment and signage provides community reassurance. Although there were only 8 quad and trailer thefts over a 2 year period, costing around £4,000 per incident, these were sufficient to concern the farming community. Trailers being stolen at night on isolated farms had a very big impact on the "fear of crime" levels. The "Text alert" element of the scheme seeks to improve communication, defeat rumours, ask for assistance in reporting suspicious activity and seeking witnesses when crime has occurred.

The Initiative was a toolkit to deter and detect rural crime and to reduce the fear of crime among the farming community. The text and Datatag elements were a common sense addition to the sheep scanning, providing an inclusive and comprehensive package. It also showed that police were making an effort to understand and deal with rural crime.

In terms of Stakeholders, the local Vet, proved to be a very good point of contact. As a respected member of the community, farmers were more honest with him about thefts of stock. It was through him that Police first became aware of the retina scanning technology following an article in a professional veterinary magazine. Enquiries with the Department of Agriculture and Rural Development finally led police to the Agri Foods and Bio-Sciences Institute.

Farmers themselves, who had not been the victim of theft, also made good stakeholders. Community Intelligence began to identify various suspects and allowed us to raise questions within the Department of Agriculture.

Analysis:

Crime Analysis in relation to the Theft of Sheep was carried out by the Crime Analyst, however, reported theft was not necessarily an accurate measurement of this problem. The public meetings were also a good indication of the interest in this problem. On both occasions, around 100 farmers attended the meeting to look at the problem and to explore the possible solutions.

The causes of the problem can be traced to the style of farming. The use of "Shared Mountain" grazing land in the spring and summer allow for the mixing of flocks. The areas are also isolated and require extensive walking to check on animals. Definitive counts are impossible over these 5 or 6 months.

Data was also sought from the Department of Agriculture and Rural Development, Veterinary Division and Fraud Investigation Team. This information provided some land usage information on possible suspects and enabled police to examine land following theft reports.

Intelligence received suggested that there were two types of thieves involved. There were those who were opportunists, probably living within the area. These would have been apparent by the loss of smaller numbers of sheep, 5 or 6, in more remote locations. This appeared to be the case in 4 of the 10 reported incidents. These thefts required local knowledge, more than likely the use of a sheepdog and the perpetrator would not have seemed to be out of place in that area. The removal of the sheep may have involved lifting animals over fences.

The second type of thief was more organised. Sheep were stolen near the roadside, possibly even near to a crush (a walled area used as a holding area). Numbers stolen were roughly in groups of 20, generally a trailer load. 6 of the 10 incidents followed this pattern. This sort of behaviour was more likely to have taken place late at night. The sheep were then transported from the area, any identity marking removed, integrated with a flock and sold on in markets at a later stage. Considering these two "types" of theft, a solution would have to address both methods.

More importantly, 7 of the 10 incidents occurred over the shared mountain between Glenshesk Glen and Glendun. This allowed police to target the scheme in this area first.

Using the Problem Analysis Triangle, the following was evident:

Offender
- Intelligence on who was involved in the thefts was gathered– thus the defining of 2 types of thefts, the local thief and the organised thief. Information on suspects' vehicles and lands were obtained and local police conducted late night patrols. Police also randomly stopped any vehicles with sheep trailers moving about at night to disrupt these activities.

Victim
- It was important to examine the farming methods and to understand the way the farmers interacted with their neighbours. Sensitivity was required when dealing with neighbours as they maintained a very strong sense of interdependency, even if they believed their neighbour might have been stealing from them! Farmers were also encouraged to report suspicious activity to police at the time.

Place
-The geography of the area was an essential part of policing the solution. The sparseness of roads meant that the area was so isolated. The sparseness of police resources in such a large rural area also made it difficult to effectively disrupt criminal activity. To gain local knowledge, Police also rambled in the area to understand the terrain better.

As stakeholders, the farmers' involvement was critical. Also, a priority was to draw in the Farming Unions, the involvement of police in adjoining areas, the Department of Agriculture and Rural Development, The Agricultural College and specifically the Veterinary Division. Moyle Community Safety Partnership, the Moyle District Policing Partnership and the Mid Glens Community and Police Liaison Committee all assisted. The real breakthrough in terms of providing an effective solution came with the involvement of Iain Brown from the Datatag Company and Dr Adrian Allen from the Agri Food and Bio-Sciences Institute. Councillor Randal McDonnell, local vet and Lay Magistrate, also greatly helped in making and suggesting contacts. A working group of around 12 Farmers was also formed to implement the scheme and to provide local direction as well as eventually providing 5 local farmers trained to carry out scanning.

In terms of gaps in information, the obvious one was to do with the identity of the offenders. An intelligence requirement was drawn up and the difficulty that emerged was the localised nature of the problem and the infrequent pattern of thefts.

Response:

The response comprises of the three elements of the Crime Prevention, Glens of Antrim scheme.

1. **Retinal scanning of sheep.**

Retina Scanning equipment takes a digital image of the back of the eye. The scanners will automatically look for a tree like structure, which represents a vein at the back of the eye. The vein pattern is unique to each eye and to each animal. The retinal image can also be processed up to an hour after death and perhaps beyond if research continues. The analysis of the digital image can then be compared to a database. The retinal image will not change during the lifetime of the animal. Our partner agency, The Agri Food and Bio-Sciences Institute had studied and experimented with the technology which is owned by a US Company, Optibrand. Under the supervision of Dr Adrian Allen, they were excited to have an opportunity to actually use the technology "in the field". Together, we have presented the technology to Farmers in the area, gauged opinions and ideas and finally sought volunteers to undergo training in scanning and to provide animals for scanning.

The actual scanning process can take about 3 hours for 100 animals. The database will hold five images for each animal, one for each eye, one of the sheep's face and two of any ear tags available. This will be recorded against the Farmers name and address and their flock number. The GPS position of the location scanned is also recorded as the scanners have GPS built in. It currently costs £1 per animal compared to DNA analysis, which costs around £60 per sample.

Crime Prevention, Glens of Antrim

This scheme is only a pilot and is not intended to be anything more than this. To be successful, the scheme would need to be adopted Province Wide and GB wide by government. If scanners were available at livestock markets, random sampling could be carried out. If the equipment was available at the Ports and Department Vets carried out random checks, it would deter the movement of stolen animals. The scanners would also need to be available at Slaughterhouses. These would be the three main control points.

The success of this solution reaches far beyond the Glens of Antrim. The project has shown the likely operating issues that would come up if adopted as an industry standard for DARD. Traceability of animals, a major problem during the Foot and Mouth Crisis could be solved using this technology. Veterinary Division have been involved in the discussions, meetings and are aware of the scheme. They were reluctant to become involved themselves as there was no legislation in place to grant powers to their Inspectors. Recently, moves have been made to address this and allow the Department Inspectors to use this biometric identification process. Police have led this initiative simply because it allows us to solve a localised problem using creative and developing methods. It would be foolish to think that police should scan sheep throughout Northern Ireland and beyond. It is hoped that in doing so, that the Department of Agriculture and Rural Development will consider this as a practical solution to Sheep traceability. A by-product of this would be to reduce the theft of sheep Nationally. Sustainability comes only through the adoption of this on a much larger scale. It is pleasing to see this beginning to happen.

2. Datatag for Quads, Trailers and Tools.

Datatag is a commercial company which offers Quad Kits, Trailer Kits and a Home Marking Kits for use on tools. The actual number of thefts has not been high, but it has been a fear expressed by Farmers. Property marking is an accepted method of reducing crime. Datatag agreed to provide training free of charge and to produce signage for the scheme. The kits consist of microdots in solution, "Transponders" and other etching or marking equipment. Transponders are bonded into various parts of the equipment and can be read using a Datatag scanner. (On issue to local police only). The scanner energises the transponder, allowing the transponder to send back an electronic signature to the scanner. This can be read from the scanner as a digital readout, a 24hr helpline is available to discover who has registered the product.
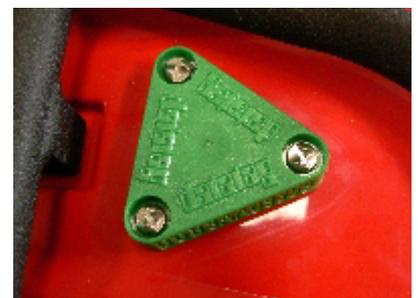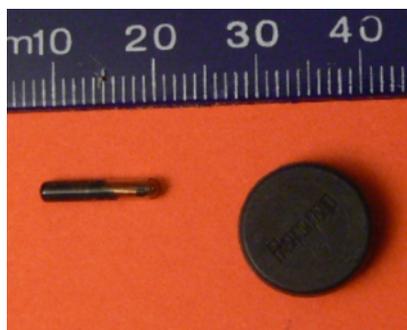
Under the scheme, the Datatag kits were offered at a subsidised rate to farmers. Police assisted in fitting the kits and 100 kits have been deployed to date. The signage and local media coverage makes the thief aware of the possibility of stealing marked equipment. The more people who know about the system and understand it, the better. Police have also formed a partnership with the local Quad dealer.

3. Text Messaging

A text messaging group has been set up for this scheme and carries messages specifically related to this area and farming group. Most farmers have mobile phones and initially around 20 signed up for this. The numbers continue to grow. There is no cost to the farmers for this and PSNI operate the system within it's own systems. It will increase public confidence, reduce the fear of crime and provide a quick method of alerting farmers or seeking assistance.

It took a considerable amount of time and effort to implement the three strands of the scheme. The scanning took 4 months of preparation and is ongoing. The roll out of Datatag transponders and marking kits took 5 months to deliver the initial demand. The Text messaging took 6 months to organise and is ongoing.

The total cost of the project is estimated to be £34,650. Funding of £13,950 was obtained from a government scheme and £1,000 was awarded from Moyle Community Safety Partnership. The contribution "in kind", including time contributions from our partners and from the Farmers, is estimated to be £20,700. Dr Allen and his team have spent a lot of time working with Optibrand, attending planning meetings and public meetings with Police. AFBI also continue to work on the project, quality assuring the images being loaded onto the database, loading the images and preparing the "flash cards" for the individual flocks prior to scanning. The funding money has been used to pay for the scanners, training, database space and to reduce the price of the Datatag marking kits. Mr Iain Brown from Datatag has also been involved in planning, organising, attending planning meetings, public meetings and training Police and Farmers. He also donated signage, designed specifically for this scheme.
In terms of local contribution, we have a local steering group who have provided strategic direction and advice for the project. We also have 5 farmers trained in the use of the Optireader (Retinal Scanner). The five farmers have scanned their own flocks and have assisted in scanning their neighbour's sheep to keep costs low.

The biggest difficulty the project has faced has been the time taken to plan and implement it. Police are not working exclusively on this project, neither are AFBI. It has taken time to set meetings, arrange training, order equipment, agree working protocols and to actually deliver the project, be it Datatag or Scanning. The scheme also has to fit naturally around the yearly cycle of the Sheep Farming process. Flocks need to be gathered and accessible. Police have had to become aware of Farm Hygiene and disinfectant practices. During scanning, an eye infection known locally as "wind disease" was observed within a flock, allowing the farmer an opportunity to catch the infection on early and get treatment for it.

In terms of future working, the continuation of the scheme is dependant on the adoption of the retina imaging system for Sheep Farming in Northern Ireland and elsewhere. The pilot has ironed out the difficulties encountered, it has provided practical solutions to scanning issues, shown the costs involved and has demonstrated the practical deployment of the technology. AFBI have been able to exhibit at the Royal Ulster Agricultural Show and the scheme has been discussed within the Farming Media. AFBI provide research, services and advice to DARD and have a close working relationship with their Veterinary Division.

Crime Prevention, Glens of Antrim

In terms of our exit strategy, Police will continue to use Datatag until the stock of subsidised kits has expired. The text messaging alert scheme will continue to be used. The Retina Scanning is a practical experiment and once the 3000 sheep are on the database, the scheme will end. The purpose of the pilot was to show the effectiveness of the method of identification. The findings will be presented to Government via DARD and to the farming community via the steering group and the media. It is clear that the scheme is a viable and cost effective system which allows traceability in sheep, something unprecedented to date.

Assessment:

Police Analyst figures in relation to the number of thefts in the area and the numbers of animals stolen are the baseline figures for success. The figures are based over three years. To date, no further sheep have been stolen. The publicity generated as a result of the scheme has been effective in raising the profile. During a recent community Safety Audit, the scheme was rated as "Highly Successful". The local newspapers and farmers publications have carried articles and photographs of the launch, the public meetings, training in Datatag, training in Retinal Scanning and the roll out of the scheme. BBC Television also covered the launch. Signage in the area has generated interest and debate. Such publicity and profile has generated confidence in the scheme and has also proved to be an effective deterrent.

One successful theft case through the courts in November 2007, although not directly linked with the components of the scheme, was as a result of increased confidence in the police's ability to deal effectively with such crime. It was in the Glenshesk area, and involved a farmer participating in the scheme. At the time, it generated a lot of local debate as it involved the recovery of 16 stolen sheep. It also sent a clear message to the opportunist, illustrating that "Theft by finding", then relocating animals, could well end up in Court. Within the farming community of the area, this has been regarded as a wake up call.

All agencies were somewhat unrealistic about the time that would be required to pilot and manage the scheme. For the police, other operational requirements took precedence. For AFBI, the outbreaks of Bird Flu and Bluetongue Virus were greater priorities.

In terms of problem solving, the project was not devised overnight. It was through practical experience, local knowledge and a long-term commitment to deal with the theft issue that the solutions finally presented themselves. The support of the farming community was critical. It was important to have an understanding of local farming to be able to identify possible solutions.

In terms of the Problem Analysis Triangle, this solution deals with all three sides. The thief has to be aware of the increased risk of detection, thus the reason for the publicity and the open invitation to the public meetings. With better community support, local intelligence has improved.

Regarding the Victim, it builds confidence in the ability of the police to deal effectively with rural crime. It provides relevant technology, which is a viable long-term solution to the identification problem.

It also makes the overall location less attractive to thieves from outside the area. Through the use of signage and the increased possibility of detection, there is a definite deterrent factor. All three strands had to be addressed to produce the most effective and comprehensive solution.
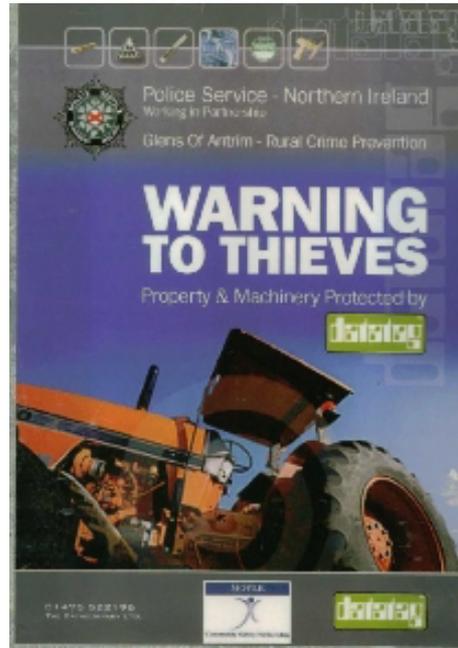
The strength of the project lies in partnership working. The Police, AFBI and Datatag have worked very well together, co coordinating the scheme and consulting on the best way to take it forward.

This "package", i.e. the three elements of the scheme forms a toolkit, which is working in the Glens of Antrim area. It would also be transferable to other areas and could be modified, particularly the text messaging and the Datatag scheme.

Retinal scanning is also transferable, but quite obviously not in getting police to carry out sheep scanning throughout Northern Ireland and beyond. This was never intended to be the purpose of the Pilot scheme. It is hoped that the partnership has shown that this could be a viable identification method if adopted by the agricultural community. Locally, it has been successful in reducing sheep thefts and raising public confidence in the police's ability to effectively understand and tackle this problem.

It is now for DARD and the government to examine it's usefulness as a Province wide standard. Already, the Minister has been asking questions in response to the request from the Department's Veterinary Division for powers to use Retinal Scanning. Traceability of stock will be the main concern of the Department's involvement, however it is of benefit to everyone as it will reduce crime, contribute to infection control, improve stock quality by providing individual identification for animals and can finally form part of a government register for sheep. It can be done relatively quickly and at a much reduced cost in relation to other options.

The scheme has provided a local solution to a local problem. It can be utilised in other rural areas as a toolkit, involving Community Safety Partnerships. At the very least, the retina scanning can be used as a specialist policing solution available to crime prevention officers where sheep are being stolen and identification is essential. Optibrand and AFBI are available as expert witnesses as in fingerprint technology or any other scientific evidence. Within the Glens area, there will still be five local farmers who are trained in the use of the scanners and the scanners can be made available for their use. They may wish to reach agreement with AFBI to provide the database for possible private work. This could be a lucrative niche in the market at a time when this technology is evolving.

Crime Prevention, Glens of Antrim

As a confidence building measure, the Initiative has received a very warm welcome from the farming community in the Glens Area. The willingness of farmers to purchase Datatag kits, get involved in Scanning and training is progress in itself. Through partnership, the scheme has successfully tackled the theft issue and has provided farmers with a solution that they have been involved in developing.

The scheme cannot guarantee a crime free Glens area, but it has turned **the fear of crime** into the **fear of being caught.**

State number of words used: 3926

ASSISTANT CHIEF CONSTABLE, CRIMINAL JUSTICE

Tilley Awards
PPSU
4th floor
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2 Marsham Street
London
SW1P 4DF

18 April 2008

Dear Madam,

RE: ENTRY FOR TILLEY AWARDS 2008

Crime Prevention, Glens of Antrim

As nominated Senior Representative for the Police Service of Northern Ireland, I confirm this nomination is factually correct and endorse this entry for the Tilley Award 2008.

Yours faithfully

J A HARRIS
Assistant Chief Constable
Criminal Justice Department

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