



Information brief on REDD+ strategies trialed in the Seima Protection Forest REDD+ project, with an assessment of their effectiveness



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Cambodia REDD+ Programme



Disclaimer

This information brief was prepared by the Wildlife Conservation Society (WCS)-Cambodia Programme, drawing on their experiences in developing and implementing the Seima Protection Forest REDD+ Project under voluntary carbon market. The work of producing the brief was funded by UNDP under the UN-REDD Programme. However, the views and recommendations reflected in the brief are not necessarily those of the Cambodia REDD+ Taskforce, the Forest Administration, the General Directorate for Administration of Nature Conservation and Protection (Ministry of Environment), UNDP or the UN-REDD Programme.

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1. Introduction

Reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+) is to provide positive financial incentives to countries to reduce emissions through avoided deforestation and forest degradation, and to compensate these countries based on their performance. The success of REDD+ is entirely dependent on the successful implementation of strategies to address drivers of deforestation and forest degradation. The parties to the United Nations Framework Convention on Climate Change (UNFCCC) decided to adopt the “Warsaw Framework for REDD+” in the 19th Conference of the Parties (COP19) in Poland and the framework also recognizes the importance of addressing the drivers of deforestation and forest degradation in the context of REDD+ (UNFCCC, 2013).

Throughout its national REDD+ readiness process, Cambodia is currently implementing REDD+ demonstration project to generate lessons learnt for national scale REDD+ implementation. The Seima Protection Forest (SPF) REDD+ project is a second demonstration project under voluntary carbon market in the country. The SPF REDD+ project was launched in 2010 with the collaboration between the Forestry Administration (FA) and the Wildlife Conservation Society (WCS). The project aims to expand and improve law enforcement activities, to register existing communities land claim, and to provide/ incentive for communities to protect forests. Dominant threats are the accelerating rates of forest clearance for agriculture, illegal logging of high value timber and unsustainable trade-driven hunting of wildlife. Both outsiders and local residents are involved in these practices. The SPF is also under potential threat from the issuance of large-scale agro-industrial concessions, and possibly from mining (prospecting is currently underway). These threats are partly driven by local factors such as improving road access, population growth and weak protection measures and partly by broader economic factors such as increased demand for cash crops (Evans *et al.*, 2012).

2. Drivers of deforestation and forest degradation in SPF REDD+ Project

According to the 2010 forest cover assessment, Cambodia, with approximately 10.3 million hectare of forest on 57% of the whole country area, is one of the most forested country in southeast Asia (FA, 2011). Forests in Cambodia, as with forests across South East Asia, are under pressure from a variety of threats that are driving deforestation at an alarming rate. The diversity and scale of the threats makes the management and conservation of legally protected forests one of the greatest challenges to Cambodia's natural resource management. Despite 29% of Cambodia's landmass enjoying legal protection (Kapos *et al.*, 2010), deforestation rates continue to climb, and the drivers of forest loss are increasing. The primary drivers of forest loss in Cambodia include placement of agro-industrial economic land concessions, local and large-scale agricultural expansion, population increases which drives migration to "frontier" forested landscapes, and logging of luxury timber for the domestic and international markets. These drivers are compounded by low government capacity and a lack of political will to effectively conserve remaining forests. In recent years there have been positive steps taken by the Cambodian government to increase the protection of conservation areas (e.g. moratorium on Economic Land Concessions), and government capacity at all levels of protected area management is increasing. In many protected areas the government is supported by local and international non-governmental organizations (NGO's) which provide both financial and technical support to their government counterparts, and in these areas the rates of forest loss tend to be significantly lower than unsupported areas.

The SPF is currently under threat from accelerating forest clearance for agriculture together with unsustainable resource extraction (including hunting, logging and fishing). These activities harm both biodiversity and local forest-dependent livelihoods. Current drivers of these direct threats include improved road access, population growth, weak law enforcement and governance frameworks, limited recognition of the value of biodiversity and environmental services and rising market demand for both wild products and agricultural produce. The development of mines and agro-industrial plantations could also become potential future deforestation drivers if the area lacked full protection by the government (WCS, 2015). The illegal selective harvesting of rare luxury grade tree species is a serious law enforcement issue at the site, as elsewhere in Cambodia, but has negligible long-term effect on carbon stocks.

3. Strategies to overcome drivers in SPF REDD+ project

3.1. Demarcation and Directive 01

The South Eastern corner of SPF has historically been an area of rapid illegal land clearance. In 2010, the SPF management decided that an updated participatory demarcation exercise could help to slow the rate of illegal land clearance in this portion of the protected forest. Significant resources were invested in engaging with the communities in the area to redraw the boundary of the protected forest, excluding all recently cleared land, reinforced by the signing of hundreds of new contracts with local people who agreed to stop illegal clearance (Figure 1). The creation of the concrete demarcation poles required a large financial investment, but spanned the entirety of the new boundary (Figure 1).



Figure 1. Map showing the new protected forest boundary (yellow points and black line) agreed in 2010 by the community and the Protected Forest managers. The red lines show the original boundaries of the Buffer Zone and the Core Zone

This action had a positive impact on illegal land clearance for a short period of time, but illegal land clearance began increasing in frequency and intensity within 12 months of the demarcation. Enforcement of the new boundary was challenging for several reasons. The demarcation poles were small and in many places widely spaced, making effective patrolling of the boundary difficult; the poles were regularly destroyed, moved, or hidden which also caused difficulties for patrol teams; and there was much confusion by the local communities about where exactly the boundary was (a result of the two problems mentioned above).

In July 2012 the government's Directive 01 land titling initiative was announced which was designed to legally title land for individuals and families. In the time between the announcement and the arrival of the measuring teams the rate of illegal land clearance beyond the new demarcation increased significantly, rapidly making the new boundary redundant (Figure 2.). Much of the land measured and subsequently titled under Directive 01 was outside the 2010 demarcation and was therefore not a problem for the protected forest, however there were allegations of significant clearing inside the protected forest which were in the process of being given titles. The FA and protected forest managers received the map of proposed land parcels just in time to lodge formal complaints about the illegal titles, many of which were cancelled. Nevertheless, there were a number of illegally cleared areas which received land titles (Figure 3).

Since the Directive 01 initiative, illegal land clearance beyond the newly titled land parcels and within the protected forest boundary has continued. In an attempt to slow the rate of clearance, the law enforcement teams destroyed many hectares of crops planted illegally inside the protected forest, and enforced the signing of multiple contracts with farmers which required them to abandon illegally cleared land. This had limited success, and so recently a large-scale intervention has begun. A large ditch is being dug using machinery around the boundary of the land titled under Directive 01, and cutting across the areas which have already been illegally cleared (Figure 4.). This method of demarcation will be conspicuous, immovable, challenging to cross, and will make patrolling the boundary and law enforcement within the boundary significantly easier than before. This demarcation boundary will also send a strong message to local communities that illegal clearance beyond this line will not be tolerated.

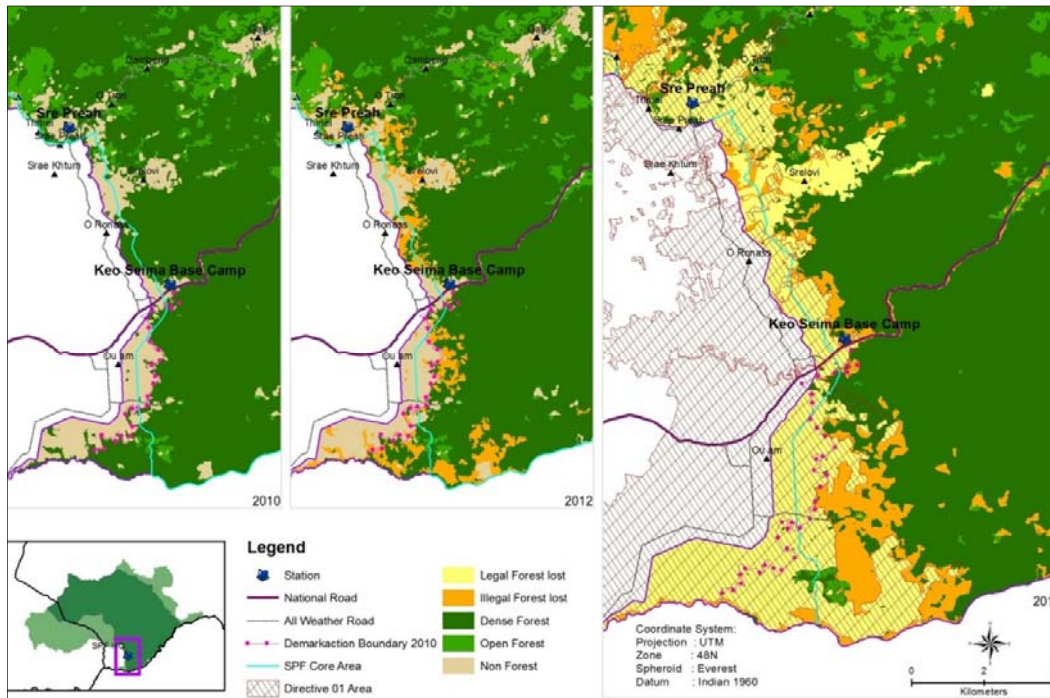


Figure 1. The results of the new agreement and demarcation in 2010 (pink line). In 2012, illegal forest clearance had been reduced (left map) but not halted. Under Directive 01 large areas of illegally cleared land became legal (right map). However illegal land clearance is still rife in this area (right map).

The use of ditches for demarcation and prevention of illegal activities is not new in SPF. In 2013 it was noted that there were many illegally cut trails and roads leading off the national highway 76 and into the forest. These roads and trails were facilitating the movement of people conducting illegal activities such as hunting and logging, and were making the movement of timber easier. To disrupt these activities, large ditches were dug across all of the roads and trails, preventing their use and making movement and transport very difficult (Figure 5.).

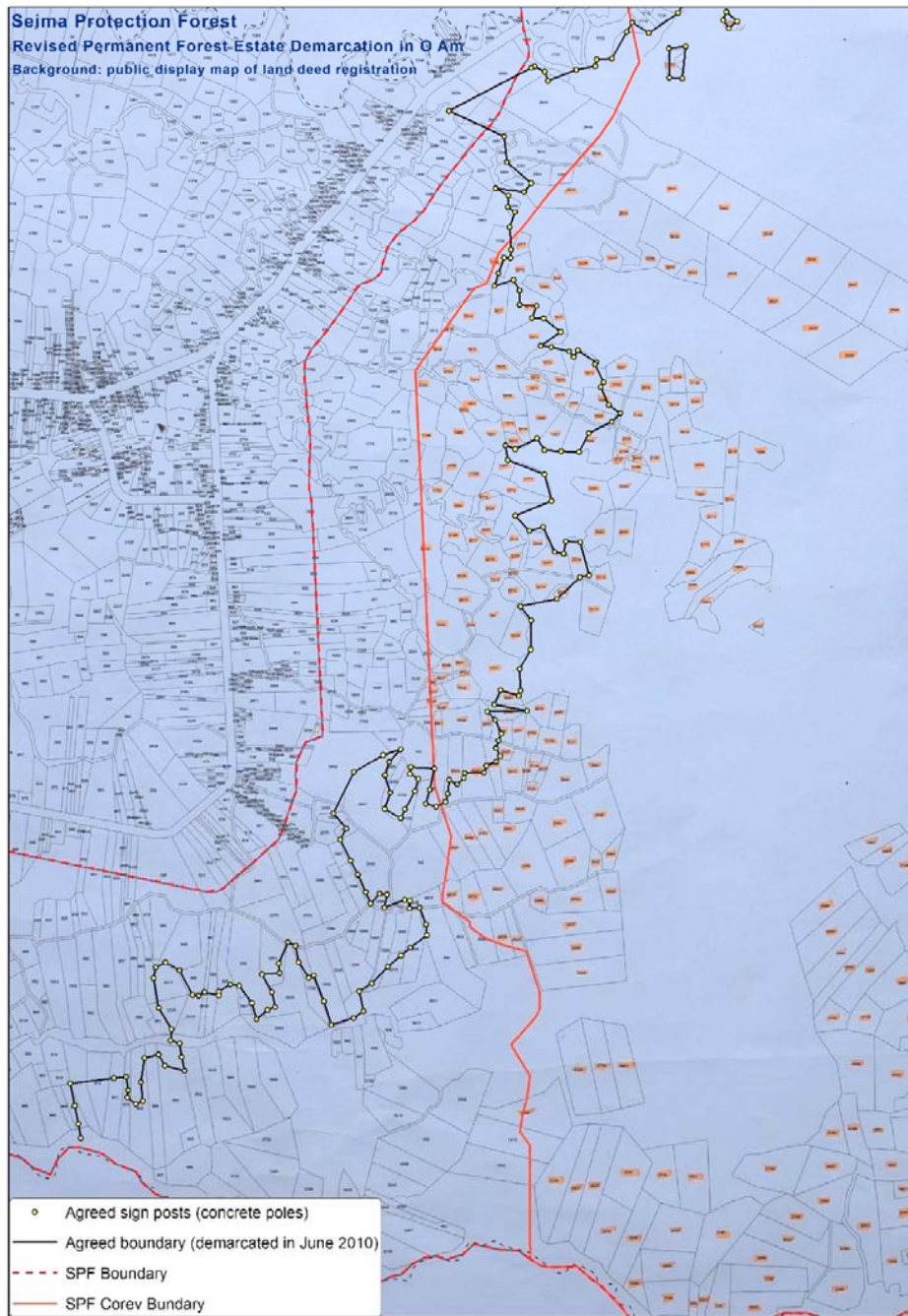


Figure 3. individual land titles issued under the Directive 01 initiative. Land parcels highlighted orange are those within the boundary of the protected forest. The 2010 demarcation is shown with the yellow points and black line.

Line proposing along Directive 01 boundary and recorrect some area for digging (Length: 11.60 Km)

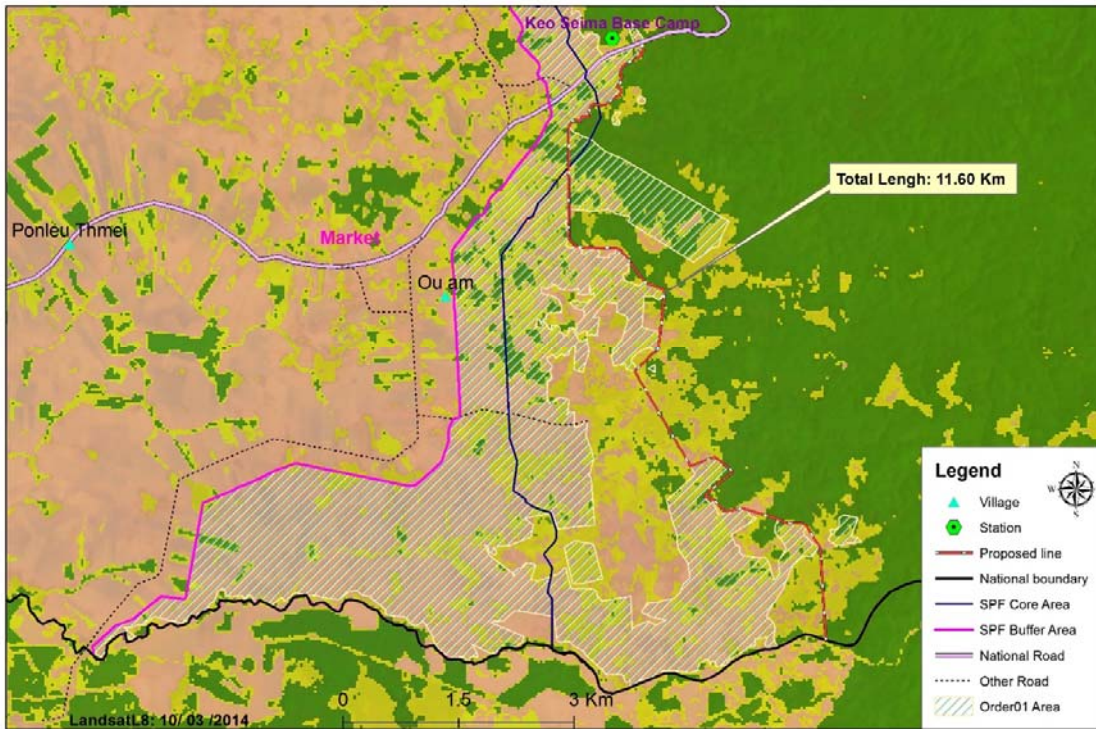


Figure 4. The proposed route of the ditch which has begun to be dug using mechanical means. The ditch is large, conspicuous, and immovable, and will make patrolling of the boundary and adjacent areas of protected forest easier

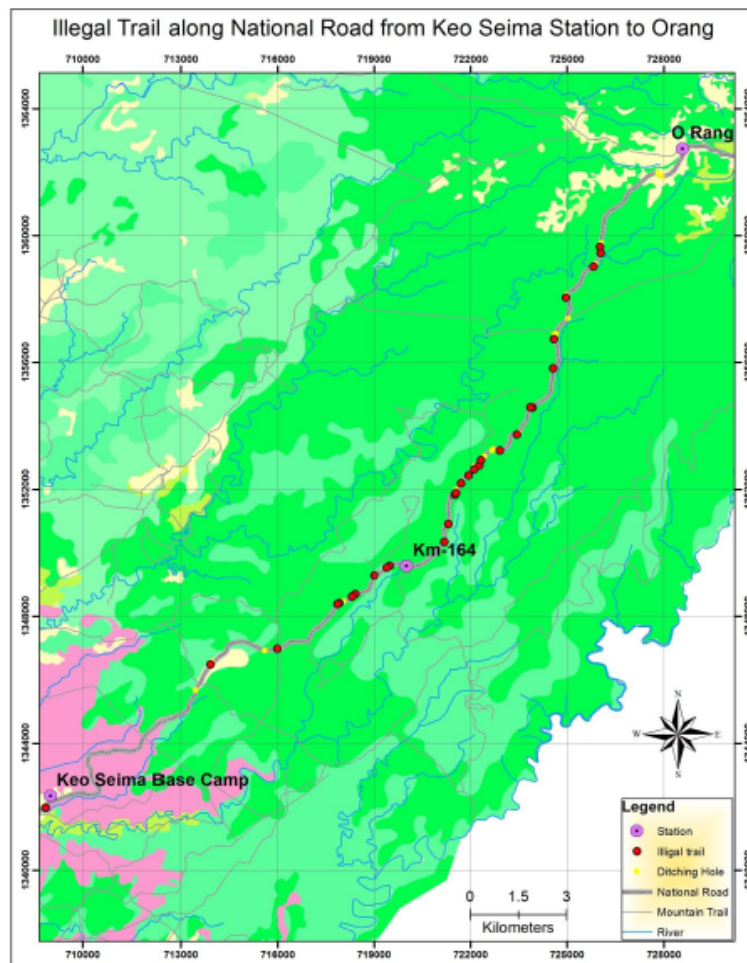


Figure 5. Locations of ditches which were dug across illegally created roads and trails. These roads and trails facilitated movement and transport of illegal items such as timber from the forest onto the national highway

3.2. Patrolling by the Forestry Administration

The project's law enforcement falls under the responsibility of the Forestry Administration. FA rangers are under the authority of the project manager, and are responsible for leading a law enforcement team on patrols and active interventions. The project's law enforcement strategy is focused on teams of rangers who rotate between ranger stations situated at strategic locations within the SPF. These stations are permanently manned, with an additional team that is based out of the Keo Seima base camp and acts as a mobile intervention squad. Law enforcement capacity was strengthened in late 2009 with the addition of a number of Military Police personnel to the law enforcement team.

These teams undertake regular patrols in the areas surrounding the stations, and between 2005 and 2014 each patrol recorded all information regarding observations and incidents using MIST (Management information System) forms. The project would produce monthly,

6-monthly and annual MIST reports documenting the patrol effort and the number of illegal activities encountered (Figure 6). These are supplemented by bi-annual meetings to review effectiveness and strategy. MIST data was migrated to the SMART (Spatial Monitoring and Reporting Tool) conservation database in 2014.

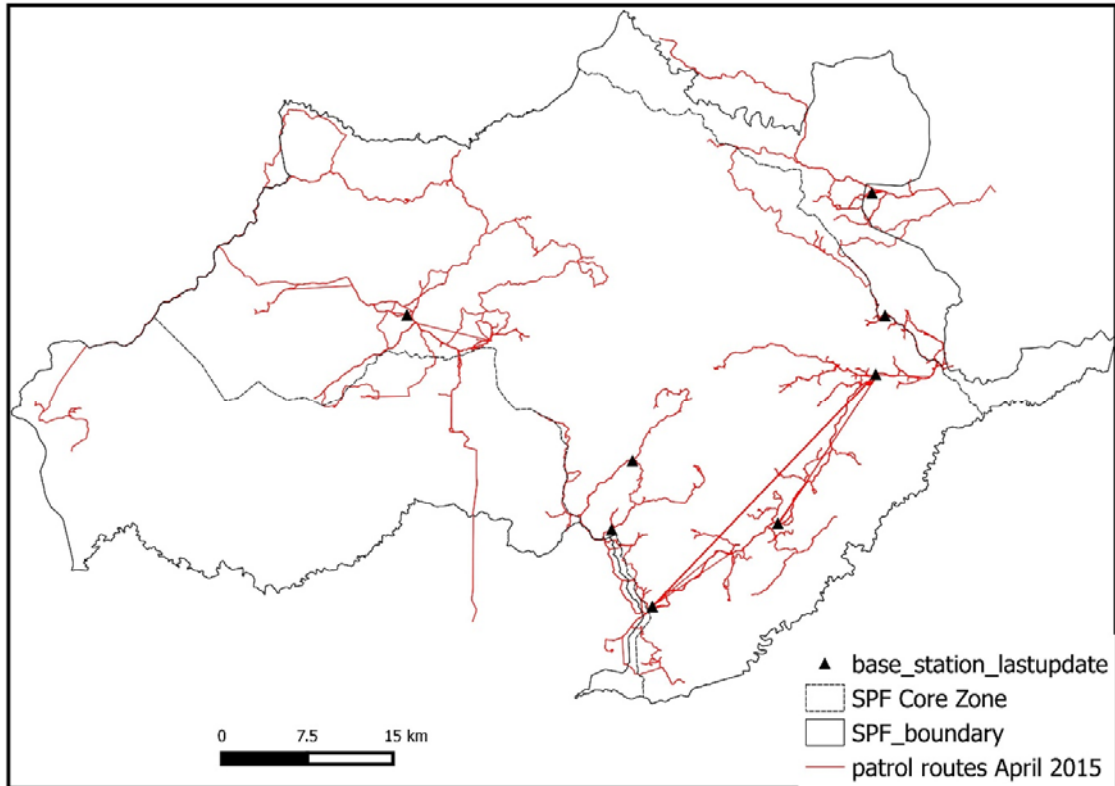


Figure 6. An example of an analysis using MIST or SMART software. The data recorded by the patrol teams and those from their GPS's are entered into the database and summaries and queries can be produced. This example shows the patrol effort of the law enforcement teams during April 2015

Law enforcement is one of the key management strategies in SPF and its effectiveness is vital to ensure the illegal activities and levels of threat are kept to a minimum. The fundamental requirement is that the patrol teams target areas of known high threat yet still ensure they maintain good spatial coverage of the Protection Forest (Figure 7.)

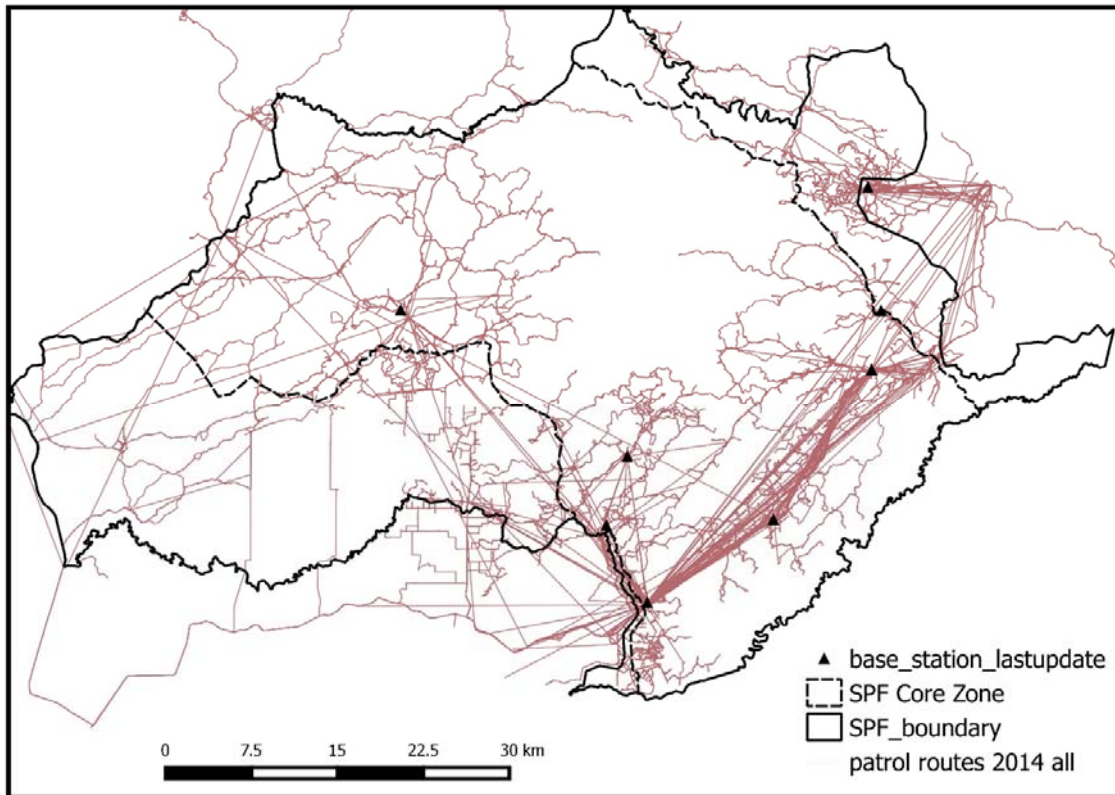


Figure 7. Patrol routes recorded in the SMART system for the whole of 2014. The key threat hotspots are more frequently visited, as are the main highways and access points where offenders often move in, out, and through the protected area.

Despite the scale and intensity of threats increasing, the law enforcement teams between 2010 and 2015 have been able to prevent activities such as hunting, logging, and land clearance from reaching the levels seen outside in non-protected areas (Figure 8).

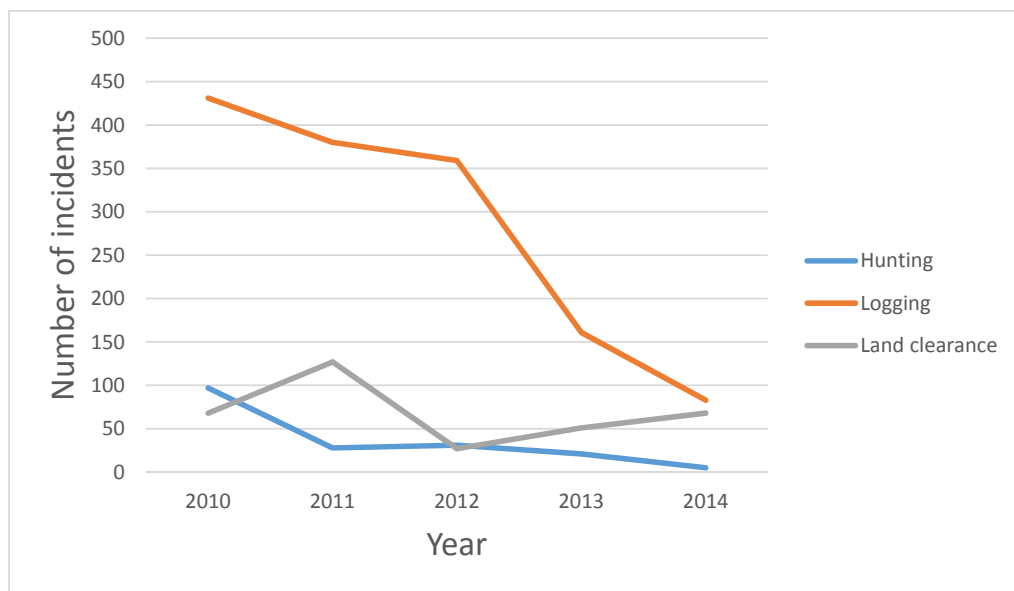


Figure 8. This chart shows the number of incidents of illegal activities encountered and recorded by patrol teams between 2010 and 2015. Despite fluctuation, which is to be expected, the general trends are either stable, or decreasing.

3.3. Community patrolling

The establishment of community-based patrol teams has proved to be a successful and widely accepted activity. Support from the communities has been strong, with the four villages of Andong Kraloeng, Pu Char, O'Char, and Pu Kong all setting up patrol teams. There are currently over 100 volunteers from these villages doing regular patrols. The community teams patrol on a rotational basis, with any one member or team patrolling once every 6 weeks. In the first few months after creation, the patrols had significant success in confiscating illegal equipment and providing information on forest crime to the FA enforcement teams. Since the start of the patrolling effort, the community teams have confiscated 44 chainsaws, five motorbikes, one oxcart, and one gun. Patrolling has been so effective in both informing the enforcement teams and confiscating illegal equipment, the program is now being developed in Andong Krealoeng village. Volunteers in Andong Kraloeng received the same style of training and equipment, and will soon be mobilized to patrol areas of forest around their village.

The benefits of this and thus the information gathered has a large impact on strategic planning, and their presence in the forest acts as a strong deterrent for would-be offenders. Secondly the support of local people for conservation is strengthened, as they are trained, equipped, and empowered to protect their own traditional forest lands. This empowerment of

local communities is rare in Cambodia, yet is a powerful tool for conservation. Several other villages within SPF have expressed strong interest in starting their own community patrols, and have actively requested support from WCS and the FA. Future effort will go directly into facilitating the recruiting, training, and equipping of a new cohort of volunteers from at least one new village, thus extending the reach of community-based patrols and further supporting the SPF enforcement teams.

3.4. Indigenous Land titling

A central aspect of the management strategy is to assist all villages who wish it to obtain communal land titles, thereby strengthening their ability to participate in conserving their own resources, and to collaborate with the FA in co-management. The right to communal land titles is provided by the Land Law (2001) with detailed procedures set out in Sub-decree 83 (2009). The initial focus of community work in Seima was on Participatory Land-use planning (PLUP) and as in 2003-4 GTZ funded the very early stages of this in Andoung Kraloeng (AK) village. AK was the first village in the province to attempt PLUP and went on to be adopted as the only pilot village in Mondulkiri for testing the legal framework on communal titling. AK was awarded their land title in March 2012, and since then a further five villages have received their titles (O’Rana, Gati, Sre Levi, O’Chrar, Sre, Khtum) (Figure 9.).

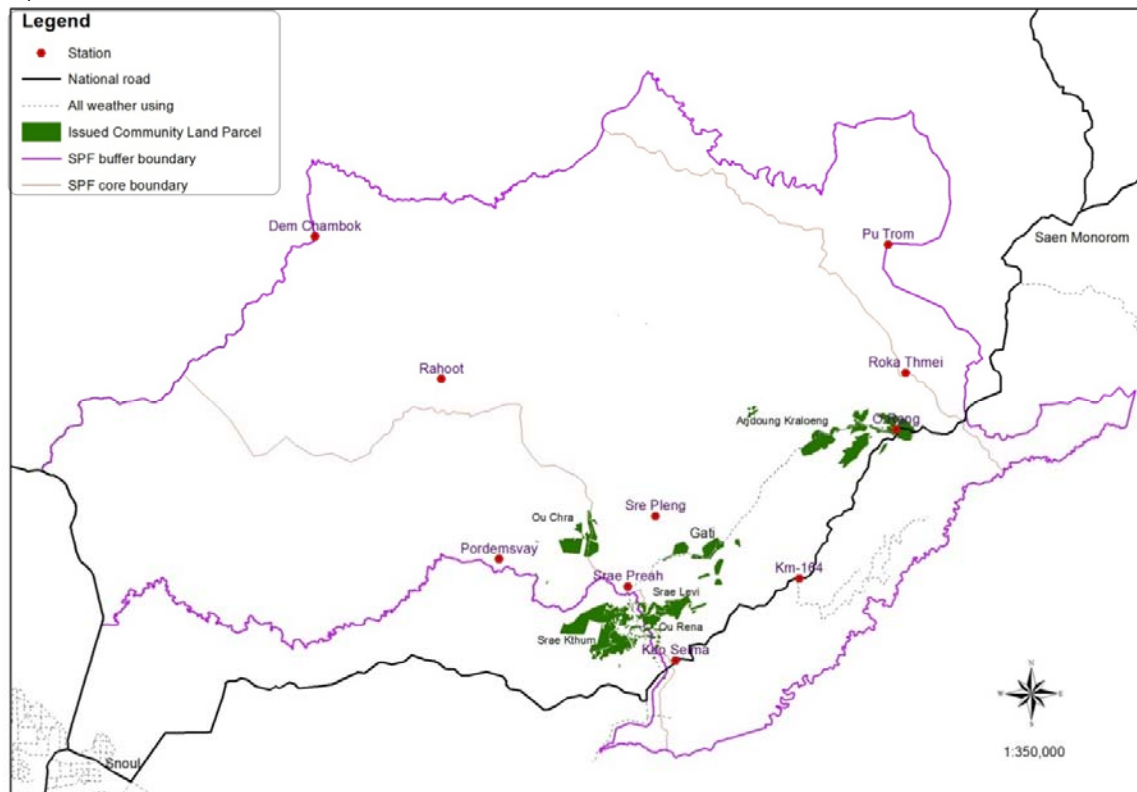


Figure 9. Locations of ICTs within SPF

4. References and further information

- Angelsen, A. & Rudel, T. K. 2013. “Designing and Implementing Effective REDD+ Policies: A Forest Transition Approach.” *Review of Environmental Economics and Policy* 7, no. 1: 91–113.
- Busch J & Ferretti-Gallon, K (2014). Stopping Deforestation: What Works and What Doesn't . Center for Global Development information Brief.
- Evans, T., Arpels, M., & Clements, T. (2012). Pilot REDD activities in Cambodia are expected to improve access to forest resource use rights and land tenure for local communities. *Lessons about land tenure, forest governance and REDD+: Case studies from Africa, Asia and Latin America*, 73-82.
- FA. (2011). Cambodia Forest Cover Change 2006-2010. Phnom Penh, Cambodia: Forestry Administration (FA)
- Ferretti-Gallon, K & Busch J (2014) “What Drives Deforestation and What Stops It? A Meta-Analysis of Spatially Explicit Econometric Studies,” : Center for Global Development Working Paper 361; Washington DC).
- Harvey C. A., Zerbock O., Papageorgiou S. and Parra A. 2010 What is needed to make REDD+ work on the ground? Lessons learned from pilot forest carbon initiatives. Conservation International, Arlington, Virginia, USA.
- Kapos, V., Ravilious, C., Leng, C., Bertzky, M., Osti, M., Clements, T., & Dickson, B. (2010). Carbon, biodiversity and ecosystem services: Exploring co-benefits. Cambodia: UNEP-WCMC, Cambridge, UK.
- Mieteva, D. A, Pattanayak, S,K & Ferraro P.J. (2012) Evaluation of biodiversity policy instruments: what works and what doesn't? *Oxford Review of Economic Policy*, 28, 69–92.
- Pattanayak, S. K., Wunder, S., and Ferraro, P. J. 2010. “Show Me the Money: Do Payments Supply Environmental Services in Developing Countries?” *Review of Environmental Economics and Policy* 4, no. 2: 254–274.
- Pfaff, A., Amacher, G. S., and Sills, E. O. 2013. “Realistic REDD: Improving the Forest Impacts of Domestic Policies in Different Settings.” *Review of Environmental Economics and Policy* 7: 114–135.
- UNFCCC. (2013). Warsaw Climate Change Conference - November 2013. *Decisions adopted by COP 19/ CMP 9*, from <http://unfccc.int/2860.php#decisions>
- Venter, O & Koh, L.P. (2012) Reducing emissions from deforestation and forest degradation (REDD+): game changer or just another quick fix? *Annals of the New York Academy of Sciences*.
- WCS. (2015). Reduced Emissions from Deforestation and Degradation in Seima Protection Forest, Cambodia. *Project Design Documents (PDD) for VCS and CCBA* (3.10 ed.).

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