Fighting over forest: interactive governance of conflicts over forest and tree resources in Ghana’s high forest zone

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Citation for published version (APA):
Conflict and conflict management in production forests

Introduction

Illegal exploitation of forest resources, especially illegal logging, has been the focus of global attention for the past decade (see Contreras–Hermosilla 2001, Kaimowitz 2003, Hansen & Treue 2008, Marfo 2010). The underlying drivers of illegal exploitation of forest resources are attributed to, for example, tenure insecurity, poor law enforcement, greed and corruption (Contreras–Hermosilla 2001, Kaimowitz 2003, Mukul 2010).

Global initiatives like the European Union Forest Law Enforcement Governance and Trade (EU-FLEGT) and Reducing Emissions from Deforestation and Forest Degradation (REDD+) have sought to minimise this problem in forest-resourced countries. Under the EU-FLEGT programme, an agreement exists to ensure a commitment to reducing illegal logging between EU and its partnering timber-producer countries through the Voluntary Partnership Agreements (VPAs) (Mayers et al. 2008, see also Chapter 5).

As discussed in Chapter 5, Ghana signed the VPA with the EU in 2009 to improve the governance process in legal timber trade and law enforcement by adapting the legality assurance system (Beeko 2009). One means of overcoming the illegal timber trade under the VPA is to ensure stricter law enforcement. However, studies in the country’s forest sector on illegal chainsaw milling indicate ineffectiveness of the ban (Odoom 2005, Adam et al. 2007). Key socio-political constraints which are hampered by weak law enforcement include a high level of rural unemployment, corruption among law enforcement agencies and high elite influence in the forestry sector (Nutakor et al. 2011).

From the local arena, both legal and illegal means are used to access forest resources. These are often driven by need and greed, with antecedent conditions being poverty, limited livelihood options and a scarcity of farming land (see Chapter 7). The result is resource users facing conflicts among themselves and with the Forest Services Division (FSD) officials, the Military, and the Police (Amanor 2000, Ohene-Gyan 2004, Marfo 2006, Ros-Tonen et al. 2010, Wit et al. 2010). Conflicts therefore become inevitable, with institutions, mechanisms and competence to manage them being either weak or
absent. This poses challenges to forest governance, sustainable forest management and sustainable livelihoods (Ostrom 1999, Marfo 2006, Yasmi 2007, Derkyi et al. forthcoming).

Some authors have therefore questioned the efficacy of strict forest law enforcement (Kaimowitz 2003, Adimazoya et al. 2009, Wiersum 2010, Mukul 2010, Owusu et al. 2010). Wiersum’s (2010) review of the FLEGT legal assurance system revealed the dominance of strict enforcement in the system, also referred to as ‘hard enforcement’ or ‘suppression enforcement’, where stakeholders seek justice through legal courts. According to the author, a system governed by such an approach does not fit in with the shift towards a decentralised forest governance regime, where the attention focuses on improving the livelihoods of forest-dependent people (Ibid. 2010). Some are therefore keen to complement a strict law enforcement approach with a soft law enforcement approach with the three inter-related operational strategies of prevention, detection and suppression to ensure effective law enforcement (see Contreras-Hermosilla 2001, Wiersum 2010). The rationale underlying the call is that forest fringe communities and the labourers in the timber industry are the first and hardest to be hit by the hard law enforcement approach (Kaimowitz 2003, Inoguchi et al. 2005, Owusu et al. 2010).

This chapter contributes to this topical debate by analysing conflicts in a production forest in the Tano-Offin forest reserve. The specific sub-questions addressed in this chapter are:

1. What are the characteristics of the production forest in the Tano-Offin forest reserve as a system-to-be-governed, particularly with regard to the interaction of local communities with the natural system in their efforts to secure their livelihoods?
2. What governing system (i.e. institutions and policy instruments) function in the production regime?
3. What are the perspectives of the inhabitants of the communities at the production forest fringe regarding the nature of forest and tree-related conflicts in the production regime?
4. What are the implications of the findings for law enforcement under VPA?

The chapter is based on document analysis, a semi-structured questionnaire survey among 137 inhabitants of Chirayaso and Kunsu Nyamebekyere No. 3, which are two villages bordering the production regime in the Tano-Offin forest reserve. Furthermore, data was collected during community and validation meetings (see Chapter 3). Secondary data and the respondents’ views on the subject matter were analysed along the lines of interactive governance theory, i.e. in terms of the system-to-be-governed, the governing system, and governance interactions (Kooiman et al. 2005, see also Chapter 2). Additionally, the elements of day-to-day conflict management – images, instruments and actions (Ibid. 2005) – were blended with the conflict wheel developed by Mason & Rychard (2005) (Chapter 2) for a more in-depth understanding of the nature of conflicts and conflict management prevailing in the study area from the perspective of the local

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1 Hard enforcement comes in the form of legal enforcement of existing forestry laws, including the criminalisation of violators through arrest, the filing of charges, court judgements and the imposition of punishment (see Colchester et al. 2006).

2 According to Contreras-Hermosilla (2002: 22), suppression enforcement of illegal forest acts involves the use of physical and legal force (arrest and imprisonment) and/or financial (fines) penalties to impose the law.
people. Subsequently, the conflict outcomes were analysed and their implications assessed for law enforcement under the VPA between Ghana and the EU to combat illegal logging.

The next section presents the natural system (i.e. the Tano-Offin production regime) and the socio-economic system of the two communities and their dependence on forest resources. Then the governing system is presented from legislation and institutional perspectives. After that, the respondents’ images, instruments and actions concerning conflict and conflict management are presented. The discussion section synthesises the findings and assesses the implications of the outcomes on law enforcement under the VPA. The chapter ends with a conclusion.

The system-to-be-governed (SG)

The system-to-be-governed is analysed from the natural and human system perspectives. The natural system provides brief description of the production system of Tano-Offin forest reserve (see Chapter 4 for details on the characteristics of the natural system). The characteristics of the inhabitants of Chirayaso and Kunsu-Nyamebekyere No. 3 and the contributions of forest resources to their livelihoods represent the socio-economic sub-system.

The natural system

The description of the natural system in terms of diversity, complexity, dynamics and scale is given in Chapter 4, where the characteristics of the high forest zone and the Tano-Offin forest reserve are described. Here, the focus is on the production regime in

Figure 9.1 Map of the Tano-Offin forest reserve indicating the two study communities
on-reserve forests. A production forest is divided into compartments of approximately 128 hectares each (1,600 m x 800 m). A group of such compartments constitute a concession or timber utilisation contract (TUC) area. Each concession or TUC area has a harvesting schedule, which is a timeline for logging individual compartments (ITTO 2005). According to the manual of procedures (MoPs)\(^3\) (see Chapter 5) that guides the Forestry Commission timber exploitation activities, the timber contractor prepares the logging plans. The TUC ranges from one to forty years, during which trees must be felled according to a harvesting schedule. Timber felling also occurs in the off-reserve areas, but the management system differs from the on-reserve regime (see Chapters 4 and 10). Both commercial timber harvesting and non-timber forest products (NTFPs) are exploited in the on-reserve production areas and the off-reserve areas. Figure 9.1 shows the areas in the Tano-Offin reserve under production and plantation regimes and the location of the two study villages where data was collected for this chapter.

The human system
This section deals with the human system of the Tano-Offin off-reserve area, paying attention to the socio-economic characteristics of the inhabitants and the contribution of forest and tree resources to their livelihoods.

– The socio-economic characteristics of the inhabitants
Chirayaso and Kunsu-Nyamebekyere No. 3 have an estimated adult population of 770 and 240 respectively (see Chapter 3). Generally, the inhabitants of the study communities engage in crop farming as their major occupation. Export and cash crops like cocoa, pineapple and oil palm are commonly grown on family or individual farmlands, whilst short-rotation food crops are cultivated in the forest reserve using the modified taungya system (MTS) scheme (see Chapter 8) or integrated with cocoa and other perennial crops on farmlands. Of the 212 respondents from Chapter 8, one hundred and thirty-seven (n=137) individuals responded to the questions in this chapter, of which 56% (n=77) were males and 44% (n=60) females. The literacy level among the respondents is high (88%). The majority of the respondents (68%) have a Middle or Junior Secondary School education certificate. The majority of the respondents (47%) were aged between 18-35, followed by the age range of 36-53. Christianity is the main religion among the respondents (93%) with only 1% of respondents in Chirayaso being traditionalists (Table 9.1).

Generally, the migrants (53%) outnumbered the indigenes (47%), with relatively more migrants being recorded in Kunsu-Nyamebekyere No. 3 (n=40 or 74%) than in Chirayaso (n=33 or 40%). The number of years that migrants have already lived in the village ranges from a minimum of one year to a maximum of sixty years. The study revealed that 37% of the respondents have a single occupation whereas 60% have multiple occupations and 3% reported that they were not engaged in any occupation. Among those with a single occupation, crop farming in the off and on-reserve areas under the MTS (Chapter 8) is the leading occupation. Three per cent of the respondents are fulltime chainsaw millers. The multiple occupation respondents also combined food

\(^3\) The FC uses manuals for production, management and planning such as the 1998 Manual of Procedures for Forest Resource Management Planning in the High-Forest Zone, the Manual of Procedures for Stock Survey and Yield Allocation (1995), and the 1998/2003 timber resources management regulations (ITTO 2005).
crop farming (on farm and under the MTS) with jobs such as chainsaw milling, civil service and other artisanal occupations such as electrician, masonry and hairdressing.

Table 9.1 Socio-economic characteristics of respondents (n=137)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Observed frequency (n) and percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chirayaso</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>44</td>
</tr>
<tr>
<td>Female</td>
<td>39</td>
</tr>
<tr>
<td>Age range</td>
<td></td>
</tr>
<tr>
<td>18-35</td>
<td>42</td>
</tr>
<tr>
<td>36-53</td>
<td>26</td>
</tr>
<tr>
<td>53+</td>
<td>15</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
</tr>
<tr>
<td>Christianity</td>
<td>77</td>
</tr>
<tr>
<td>Islam</td>
<td>4</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>1</td>
</tr>
<tr>
<td>Free Thinker</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>SSS/Secondary</td>
<td>12</td>
</tr>
<tr>
<td>Middle/JSS</td>
<td>59</td>
</tr>
<tr>
<td>Primary</td>
<td>6</td>
</tr>
<tr>
<td>None</td>
<td>6</td>
</tr>
<tr>
<td>Origin</td>
<td></td>
</tr>
<tr>
<td>Indigenes</td>
<td>50</td>
</tr>
<tr>
<td>Migrants</td>
<td>33</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single Occupation</td>
</tr>
<tr>
<td>Farming in off-reserve area</td>
<td>10</td>
</tr>
<tr>
<td>Modified taungya system (MTS)</td>
<td>16</td>
</tr>
<tr>
<td>Chainsaw milling</td>
<td>3</td>
</tr>
<tr>
<td>Others¹</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Multiple occupations</td>
</tr>
<tr>
<td>MTS and off-reserve farming</td>
<td>38</td>
</tr>
<tr>
<td>MTS and others²</td>
<td>9</td>
</tr>
<tr>
<td>No occupation</td>
<td>3</td>
</tr>
</tbody>
</table>

Key: SSS = Senior Secondary School; JSS = Junior Secondary School
¹ Trading, hairdressing, pastoral job, farm labourer, worker in timber firm.
² Chainsaw miller, teacher, artisan, prison official.

– Contributions of forest and tree resources to people’s livelihoods
One hundred and thirty-two (132) of the 137 responded that forest and tree resources do contribute to their livelihoods. The inhabitants of the two communities access the forest resources in the form of land under the MTS, chainsaw milling, NTFPs for domestic use and trade, forest services (i.e. boundary clearing, working with timber firms and as forest guards) (Figure 9.2).

Most respondents (74%) are engaged in the MTS in the forest reserve. For 37% of the respondents, this is the only way they make use of the forest reserve, and for the other 37% it is one of the ways in which resources from the forest reserve contribute to
their livelihoods. Other forest-based livelihoods include the collection of NTFPs for domestic and commercial use, involving employees of timber firms, and chainsaw milling. In addition, 20% of the inhabitants make use of NTFPs for domestic use, which includes the collection of mushrooms and snails, harvesting of pestles, medicinal plants and chewing sticks and hunting for game. However, respondents mentioned that some of these resources are becoming extinct, while some are seasonal. Moreover, the reserve contributes to people’s livelihood through forest services such as being recruited as a boundary clearer for which the Forest Services Division occasionally pays a wage, and as employees of timber firms and forest guards (3%). A minor proportion (2%) engaged in illegal chainsaw milling.

According to the respondents, forest and tree-based livelihoods are not without challenges. Problems related to the MTS include boundary disputes, illegal farming, food crop theft and the unfair distribution of taungya land (elaborated in Chapter 8). Problems associated with chainsaw milling include the confiscation of lumber and machines by the FSD-military task force. With respect to access to NTFPs for domestic and commercial use, problems are more related to denial of access to the resources by the forest guards in addition to the long distance to be covered to gather these products.

The governing system (GS)

This section presents the institutional framework by looking at institutions as a structure and as a rule and strategies governing the production regime.
Institutional structure
Four governing structures were identified under the production regime, belonging to the statutory, market, customary and hybrid governing systems respectively.

– District Forest Services Division (FSD)
The District FSD of the Forestry Commission (FC) is responsible for the management of forest reserves at the micro level, headed by a manager and assistants. The range supervisors and forest guards are the frontline officials in frequent contact with the local communities and the timber operators. Within the production regime, the mandates of the forest guards are to clear the reserve boundary and to patrol the reserve in order to prevent illegal activities. The range supervisors are also in charge of timber exploitation in a certain forest area, conduct stock surveys and measure felled trees to estimate tree volume using the tree information form (TIF). Additional responsibilities include the issuance of log conveyance certificates to contractors and conducting post-harvesting inspection.

– TUC holders and chainsaw millers
The TUC or concession holders are based in the market governing structure, but their operations are subject to statutory law. They have the legal right to operate in the on and off-forest reserves for a specified period. The TUC holders in the reserve obtain their contract through competitive bidding and are allowed to operate for a period of one cycle, which corresponds to forty years whereas in the off reserve TUC holders operate for a period of five years. Another actor in the marketing structure is the chainsaw miller. However, this category belongs to the informal private sector because of the criminalisation associated with their operations since the adoption of LI 1649 (see Chapter 5).

– Chiefs and elders at local level
The traditional authority at village level comprises the chief, queen mother and elders. As in Kyekyewere village, the two communities studied in this chapter also have subchiefs who support the chief to take care of the communities. They perform the same functions as discussed in Chapter 7, including the administration of stool lands on behalf of the stool landowners who do not reside close to the resource base, but delegate their authorities along the hierarchical ladder to the village chiefs (locally referred as ‘Odikro’). The Chirayaso chief owes allegiance to the Nyinahn stool, while the Kunsu-Nyamebekeyere No. 3 chieftaincy owes allegiance to the Hia stool.

– Unit Committee, Community Forest Committees (CFCs) and Community Biodiversity Advisory Groups (CBAGs)
The three actors within the hybrid governing structure also play a pivotal role in the production regime. These are the Unit Committee, the Community Biodiversity Advisory Groups (CBAGs) and Community Forest Committees (CFCs) (see Chapter 7 for a description of the Unit Committees and the CBAGs). The CFCs, just like the CBAGs, were established to serve as a channel through which the FSD could implement its collaborative forest management activities.
Judiciary and the Police
The roles of judiciary and the police with regards to law enforcement are discussed in Chapters 5, 7 and 11.

Legislative instruments, benefit arrangement and strategies
This section presents the legislation regarding the exploitation of timber resources in Ghana, the benefit-sharing arrangements in place and the Voluntary Partnership Agreement with the EU to combat illegal logging and enhance good forest governance.

– The legal framework governing timber exploitation and sanctions
The Forestry Commission (FC) is responsible for the management and regulation of the forestry sector in Ghana. There are laws that govern the management, allocation and use of forest resources as well as sanctions. The enactment of the Forest Ordinance (Cap 157) of 1927 gave the then Forestry Department the authority to select land suitable for reservation and declare them forest reserves (see Chapter 5). Access to timber for commercial purposes is regulated through the Timber Resources Management Act (547) and amended Act 617 (Chapter 5). The granting of timber harvesting rights stipulates that it is illegal for any person to harvest timber from any land without a TUC. A TUC can be issued on any land, with the exception of land subject to alienation holding or land with farms. On such lands, prior authorisation in writing from groups or individuals involved is required before harvesting can begin. The amended Act 617 also specifies the right of harvesting timber from private plantations. Section 3 (a) & (b) of this act indicates that: ‘The right to harvest trees and extract timber from a specified area of land shall not be granted if (i) there is a private forest plantation already on the land and (ii) there is timber already grown or owned by any individual or group of individuals on the land (Act 617: 3).

Act 547 (amended 617) also indicates that, when a TUC is to be issued in off-reserve areas, including on farmlands, an inspection of the proposed land and written authorisation from the landowners is required before any harvesting operations can begin. The granting of timber in off-reserve areas, especially where cocoa cultivation exists, contradicts the Economic Plants Protection Act which states that felling rights with respect to timber ‘shall not be granted where the timber trees stand in farms where specified plants [cocoa] are cultivated’. It further stipulates that, ‘if timber is felled, the farmer should be compensated for his/her losses at a rate determined by the Minister’ (AFRCD 47 1979). The relevant legislations, which ensure law enforcement, include:

- Forest Protection Decree 1974 (N.R.C.D. 234). This Act defines forest offences and prescribes sanctions and/or penalties for such offences.
- The Forest Protection (Amendment) Act 2002 (Act 624). This Act repealed the Forest Protection (Amendment) Law 1986 (P.N.D.C.L.142), revised forest offences fines in an upward direction and introduced joint liability in the commitment and prosecution of forest offences (see Chapter 7).

– Benefit sharing schemes in the production regime
Below the three benefit-sharing arrangements in production forests are explained, which include royalties, social responsibility agreements and crop damage compensation.

1. Timber royalties
The concept of royalties in Ghana forest management can be traced back to the 1927 Forest Ordinance Act. It was a period when stool landowners were given a role in forest
management under colonial rule with a percentage of the revenues generated. The current benefit sharing arrangement is enshrined in Article 267 (6) of the constitution of Ghana, complemented by Act 547. The benefit-sharing scheme as stipulated in the constitution still holds for the on-reserve forest, while a forest policy reform in 2002 modified the proportion in the off-reserve areas (see Table 9.2). The distribution among beneficiary stakeholders occurs when the FC has taken its share of 60% and 40% management fees from the royalties accrued from the on-reserve and off-reserve forest areas respectively.

Table 9.2 Current benefit-sharing schemes for royalties from timber resources in on and off-reserve areas

<table>
<thead>
<tr>
<th>Stakeholder beneficiaries</th>
<th>Reserve (%)</th>
<th>Off-reserve (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry Commission</td>
<td>50.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Administrator of stool lands</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>District Assembly</td>
<td>24.8</td>
<td>24.7</td>
</tr>
<tr>
<td>Traditional council &amp; Stool landowner</td>
<td>20.2</td>
<td>20.3</td>
</tr>
</tbody>
</table>

Source: OASL/FC (2010).

2. Social responsibility agreement

The social responsibility agreement (SRA) was introduced into Ghana’s forest management system as part of the TUC procedure in the late 1990s. It is an agreement between a TUC holder in both on and off-reserve production areas and the land-owning communities (forest fringe communities) (FC 2004). The legal instruments governing this arrangement are Act 547 and the Timber Resource Management Regulations (L.I. 1649) of 1998. The agreement is made up of two parts. The first is the code of conduct that entails the contractors’ role to ensure that all timber operations are conducted with due respect for the rights of the communities in terms of their customs, beliefs, infrastructure and livelihoods. The second part concerns the social obligations, i.e. a specific agreement drawn up between the community and the contractor based on the stumpage or the monetary value of the trees removed from the TUC area. The financial value of this social obligation is stipulated in the L.I. 1649 Section 13(1b) stating that:

‘a social responsibility agreement should be entered into with the landowner ‘to assist the inhabitants within the contract area with such amenities as specified in the agreement at a cost of not less than 5% of the annual stumpage from the operations under the TUC.’

The SRA negotiation team in a community consists of the local chief, representatives of the community and the FSD, and the District Chief Executive of the District Assembly. Besides being a witness, the guidelines mandate the FC to play key negotiation role in (i) informing community representatives about the new TUC allocation procedures, (ii) advise communities about the SRA, (iii) educate communities on the procedure for developing SRAs, and (iv) assist communities to prioritise their development programmes (FC 2004). Section 6 of the SRA guidelines spells out compliance and sanctions of SRA to the communities, the FC official at the district level and the TUC holder. Section 6.1 states that ‘the demand of the communities should be specific, time bound and realistic and for them to be able to access how much constitute 5%, there is the need for the District forest manager or representative to play a key role to guide in calculating the value of the 5%’.

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4 The Forestry Commission has decreased its on-reserve benefit share to 50% and increased the off-reserve benefit share to 50% (OASL/FC 2010).
Similarly, in the event that the contractor fails to fulfil the agreed SRA, the sanctions stipulated in Act 547 (amended 617) Section 15 (1) authorises the suspension or termination of the contractor’s activities on the following grounds:

- Failing to observe taboo days (see Chapter 7);
- Destruction of social infrastructure without taking steps to replace or repair it immediately; and
- Failing to pay compensation for crops damaged.

3. Crop damage compensation

The concept of crop damage compensation is stipulated in Act 547. The Act gives power to farmers regarding tree felling on farmlands. The act indicates that a TUC holder needs the permission of the farmer before harvesting. In addition, the farmer has the right to negotiate ‘fair compensation for crop damage’, and when disputes occur between the contractor and the farmer, there will be delay in the issuance of the conveyance certificate until the dispute has been resolved.

4. The Voluntary Partnership Agreement (VPA) and law enforcement

The VPA as discussed in Chapters 5 and 7 is intended to improve the governance process in legal timber trade and law enforcement. The agreement outlines stages to promote legal trading in timber while ensuring social safeguards for vulnerable groups during implementation. A key part of the document of relevance to this chapter is Annex V of the agreement, which indicates how Ghana will implement its Legality Assurance System (LAS). It outlines twelve steps to track and control the timber flow critically from the resource base to its place of final destination. One of the twelve steps of interest to this chapter refers to the source of the timber. The agreement states that ‘wood products coming from Ghana will be derived from legally designated areas and will be allocated according to legal prescription. Such products will come from designated areas within forest reserves, plantations, off-reserve areas and sub-merged forests’.

As a means to ensure that Ghana fulfils its VPA commitments, several studies, activities and meetings have been undertaken. One of these meetings was the international workshop held in 2010 as part of the ‘Illegal or Incompatible’ project coordination by the Forest and Nature Policy group of Wageningen University, which generated six mechanisms to minimise illegal logging in Ghana (see Chapter 5). One of the mechanisms of relevance to this chapter is the introduction of soft law enforcement, i.e. creating incentives for people to adapt in the long term to the VPA system (IOI Project team 2010).

From images to action: Forest fringe communities’ perspectives of conflicts and conflict management in the production forests

This section examines the governance elements i.e. the images, instruments and actions in day-to-day conflict management (first order governance), using the dimensions of the conflict wheel developed by Mason & Rychard (2005) (see Chapter 3). It discusses the respondents’ images (of conflict issues, actors involved and ‘culprits’, causes and conflict dynamics) and the instruments (i.e. conflict management strategies they identified) for each of the conflict types identified. The actions proposed by the respondents in relation to the three conflict categories are also discussed.
**Conflict issues**

Based on the survey and focus group discussions in the study villages, nine livelihood issues were identified from which conflicts evolved. These were grouped into three main categories. The first category encompasses conflicts related to access to forest resources and includes conflicts related to chainsaw milling, commercial NTFP extraction, the gathering of NTFPs for domestic use and hunting. The second category concerns operational conflicts within TUC areas (on and off-reserve areas) which evolve around SRAs, log theft and crop damage compensation. The third category encompasses conflicts related to land use (i.e. boundary disputes and illegal farming) in both on and off-reserve areas. Table 9.3 indicates the number of respondents who mentioned each conflict type when they were asked whether they are aware of any forest and tree-related conflict in the Tano-Offin production regime. The most frequently mentioned conflicts are those relating to chainsaw milling (76%) followed by access to NTFPs for commercial use (25%).

**Table 9.3** Livelihood components around which conflicts evolve

<table>
<thead>
<tr>
<th>Conflict category**</th>
<th>Livelihood component</th>
<th>Number of respondents (n /%) who mentioned the conflict type*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1 (resource-based)</td>
<td>Chainsaw milling</td>
<td>104 (76%)</td>
</tr>
<tr>
<td></td>
<td>NTFPs for domestic use (plants)</td>
<td>6 (4%)</td>
</tr>
<tr>
<td></td>
<td>NTFPs for commercial use (plants)</td>
<td>34 (25%)</td>
</tr>
<tr>
<td></td>
<td>Hunting</td>
<td>14 (10%)</td>
</tr>
<tr>
<td>Category 2 (operational)</td>
<td>Social Responsibility Agreement</td>
<td>15 (11%)</td>
</tr>
<tr>
<td></td>
<td>Log theft</td>
<td>15 (11%)</td>
</tr>
<tr>
<td></td>
<td>Crop damage compensation</td>
<td>2 (1%)</td>
</tr>
<tr>
<td>Category 3 (land-based)</td>
<td>Boundary disputes</td>
<td>11 (8%)</td>
</tr>
<tr>
<td></td>
<td>Illegal farming</td>
<td>9 (7%)</td>
</tr>
</tbody>
</table>

* N = 137; respondents were allowed to refer to more than one conflict type. **the number of respondents is based on each conflict type and not on a category. The nine conflict types were arranged into three categories for easy analysis.

Source: Field survey 2009-2010.

Behind each category are a number of actors competing for different or the same resources in the production forest. Failure for one to attain a claim usually results in conflict and these are either managed or not. The outcomes of the management strategies have the potential to improve the regime management or negatively result in more conflicts, as shown in Figure 9.3 (i.e. the vicious cycle of forest livelihoods conflicts in this regime).

**Respondents’ images and instruments regarding conflicts over access to forest resources**

Conflicts related to competition for access to forest resources has four conflict types: those relating to chainsaw milling (n=104), plant NTFPs for domestic (n=6) and commercial uses (n=34) and hunting (n=14). Chainsaw milling conflicts were mentioned by 76% of the respondents from Chirayaso and Kunsu-Nyamebekyere No. 3. The issues within this conflict type evolve in relation to felling trees without a permit, theft among millers for lumber and fuel, and the confiscation of logs and crop damage. Within this conflict type, various actors operate at different socio-political levels. Confrontations occur between chainsaw millers and either FSD field staff or FSD/Military task force (reported by 63% of the respondents) or between chainsaw millers and TUC holders (15%) and chainsaw millers and farmers (8%). The rest of the respondents (14%) re-
ported that the conflicts occur among chainsaw millers themselves, surrounding the stealing of logs/lumber and fuel. With respect to who to blame for the start of the conflicts, according to the perception of the respondents each of the actors may have started the conflict, especially those actors who were offended during the course of the confrontation. In some instances, some respondents blamed the chainsaw millers, while others blamed the TUC holders, farmers or the FSD for initiating the conflicts.

The collection of NTFPs for commercial purposes without a permit is mentioned as a source of conflict by 25% of the respondents. The actors include forest guards, NTFP collectors (traders), community members employed by NTFPs traders to access the resources in the forest reserve) and NTFP traders.

In the perceptions of the respondents, conflicts relating to NTFPs for domestic use occur between the forest guard and a community member. However, such confrontations do not occur often, provided inhabitants ask permission from a forest guard. Hunting conflicts mostly occur during the closed season (i.e. August-December when hunting is prohibited\(^5\)) and involve hunters and forest guards. There are instances where the confrontation is between two hunters over the theft of a trap. Depending on the causes of the conflict, different actors are perceived as initiating the conflict incidences. Overall, the majority of the respondents from Chirayaso and Kunsu-Nyamebekyere No. 3 particularly blamed the hunters in the case of conflicts concerning hunting during the closed season.

The antecedent and manifest causes of conflicts in this category are presented in Table 9.4. Except for chainsaw milling conflicts, which thirty-six respondents perceived to be violent, the respondents reported the conflict incidences to be non-violent. In terms of seasonality, chainsaw milling conflicts occur all year round provided an illegal chainsaw activity takes place and the offenders are arrested, or there is confrontation between the chainsaw millers and the TUC holders or among themselves. Confrontations relating to access to plant NTFPs and animal NTFPs (hunting) for commercial and domestic use were reported to be non-violent.

Within this conflict category, the study revealed that the actors employed a blend of conflict management strategies to manage the conflict incidences. The analysis also revealed that some of these conflict incidences are not managed since the offenders often escape (avoidance) (see Chapter 2 for the various conflict management strategies).

With respect to the chainsaw milling conflicts, respondents mentioned negotiation as being the lead approach. This is often accompanied by dialogue (e.g. between chainsaw millers and TUC holders) or bribery (of FSD/military officials). Negotiation was found to occur in all the other conflict types as shown in Figure 9.4 where it becomes the lead strategy used during conflicts related to access to NTFPs for domestic use. In the case of hunting conflicts, negotiation based on pleading also occurs when the victim has genuine reasons for the offence such as living close to the reserve and if the meat is intended for family consumption. Here, the FSD official (forest guard) uses this opportunity

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\(^5\) The closed season is a seasonal restriction to hunting regulated through the Wildlife Conservation Regulation of 1971 (LI 685) and its amendments (LI 1284, LI 1357 and LI 1452). It is a four-month period from 1 August to 1 December during which it is not allowed to hunt for any animal, except grasscutters (*Thryonomys swinderianus*), which are so abundant that they do not need any protection. The closed season roughly overlaps with the breeding period of most target animals, thus allowing them to reproduce (Bokhorst 2010).
**Figure 9.3** The vicious cycle of forest and tree livelihood conflicts in the production forest regime

**Production management area (on and off reserve)**  
*Case study: Tano-Offin Reserve and environs*

**Diverse actors compete to fulfill needs, objectives or interests etc.**
Chainsaw millers vs. FSD / Military; chainsaw operators/TUC holders/hunters/NTFP collectors among themselves; farmers vs. landowners; TUC holders vs. communities; farmers vs. FSD/ CBAGS/CFCs; FSD vs. NTFP collectors; illegal farmers vs. taungya heads/FSD.

**CONFLICT CATEGORIES**

- **Category 1**  
  Conflicts related to access to forest resources

- **Category 2**  
  Operational conflicts in TUC area

- **Category 3**  
  Land-use conflicts

**External mediating actors / No mediating actors**
Chief and elders; FSD or FSD in collaboration with the military; Unit Committees

**Conflict Management Strategies**
Avoidance*, Negotiation**, Mediation, Coercion, Adjudication

**Outcomes**
- Communities /farmers succeeded and / failed to materialise benefit rights.
- Communities and individuals (chainsaw millers) lost and /gained access.
- TUC holders lost timber to chainsaw millers and other TUC holders.
- FC lost revenues to illegal loggers.

Key: (+) Conflict outcomes could improve system; (+ -) = Some conflict outcomes may help improve the management area whereas others do not; (-) = Conflicts outcome escalates.
* Avoidance: culprits escape so no conflict management occurs.
** Negotiation: conflict parties resolve problems among themselves.
CBAG = Community Biodiversity Advisory Committee; CFC = Community Forestry Committee; FC = Forestry Commission; FSD = Forest Services Division of the FC; NTFP = Non-timber forest product; TUC = Timber utilisation contract.
Table 9.4  Multiple antecedent conditions and manifest behaviour of resource-based conflict types in production forest

<table>
<thead>
<tr>
<th>Activity / forest resource involved</th>
<th>Antecedent conditions</th>
<th>Manifest behaviour</th>
<th>Consequences</th>
</tr>
</thead>
</table>
| Chainsaw milling                   | • Inadequate jobs because of economic hardship and poverty  
• Forest law that forbids chainsaw milling  
• Greed and desire to get rich quickly  
• Prevailing corruption (as a result of which conflicts arise when no bribes are paid to officials)  
• Betrayal to FSD officials, military or police out of jealously or commitment to the rules | • Disobedience of the rules; logging without permit  
• Stealing of logs or fuel  
• Escape of offenders | • Confiscation of chainsaw and lumber without arrest of offender(s) or with arrest and fine or imprisonment  
• Injuries and occasional death  
• Mistrust and fighting among chainsaw millers |
| Commercial plant NTFPs             | • Bureaucracy and long distance of accessing permit from the FSD District Office  
• Economic hardship and poverty and insufficient job opportunities | • Stealing among collectors  
• Quarrels with forestry authorities over restrictions | • Confiscation of forest products and occasionally the arrest of collectors |
| Plant NTFPs for domestic use       | • Need for food, tools and medicinal plants | • Accessing resources without permission of forest guard  
• Hunting during closed season and for endangered species  
• Stealing of game traps | • Confiscation of products |
| Hunting                            | • Need for food and income | | • Arrest and confiscation of meat and payment of fines  
• Hatred among hunters |

*Petroleum products (i.e. petrol and diesel used to operate the chainsaw machine).*
Respondents' images and instruments regarding operational conflicts within TUC areas

This conflict category entails three conflict types. It evolves in relation to TUC holders operating in the on and off-reserve areas and their confrontation with chainsaw millers, local communities and among themselves. It was also reported to involve confrontations between TUC holders and chainsaw millers on the one hand, and FSD/military patrol teams and FSD officials on the other. A third type of confrontation in this category is between the farmers and either the chainsaw millers, or TUC holders in the off-reserve area. This conflict category is characterised by both antecedent conditions and manifest behaviours as shown in Table 9.5. The underlying causes mentioned with respect to on-reserve areas include a TUC holder’s reluctance to adhere to SRA obligations and code of conducts and log theft among operators or by chainsaw millers.

The clashes between chainsaw millers on the one hand and TUC holders or the FSD/Military on the other come about because of chainsaw millers stealing logs from TUC concession areas. These incidences result in the destruction of harvesting tools and equipment of both parties, the confiscation of lumber or logs, and the arrest of the culprit (if he has not absconded), who is fined by the FSD or prosecuted in court, resulting in a fine or imprisonment. A conflict between two TUC holders may arise because of one stealing logs from the other, whereas a conflict between a TUC holder and the FSD mostly results from trespassing and the stealing of logs from the protected management area. In this instance, the conflict may end with a fine being imposed on the culprit by the FSD or the law court.

Only two respondents from Kunsu-Nyamebekeyere No. 3 referred to a crop damage compensation conflict that occurred in the off-reserve area. The underlining cause of
this conflict is the reluctance of the contractor or the chainsaw miller to pay compensation for crops damaged during tree felling on farmlands.

Table 9.5  Multiple antecedent conditions and manifest behaviour of operational conflicts within TUC area

<table>
<thead>
<tr>
<th>Operational conflicts within TUC holding areas</th>
<th>Antecedent conditions</th>
<th>Manifest behaviour</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber utilisation area (on reserve)</td>
<td>• Reluctance to fulfil SRA obligations</td>
<td>• Log theft</td>
<td>• Bad state of communities’ infrastructures such as schools</td>
</tr>
<tr>
<td></td>
<td>• Reluctance to fulfil SRA code of conduct (e.g. repair of bridges etc.)</td>
<td>• Barricade of road to prevent TUC holder transport logs</td>
<td>• Destruction of properties</td>
</tr>
<tr>
<td></td>
<td>• Greed</td>
<td>• Providing employees with guns to confront chainsaw millers</td>
<td>• Confiscation of chainsaw and lumber /logs with or without the arrest of the offender(s) resulting in a fine or imprisonment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bad state of communities’ infrastructures such as schools</td>
<td>• Fighting and loss of lives</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timber utilisation area (off reserve)</td>
<td>• Reluctance to pay compensation</td>
<td>• Crop destruction during tree felling</td>
<td>• Argument</td>
</tr>
</tbody>
</table>

From the perspectives of the respondents, most of the confrontations related to log thefts end up in violence. With respect to the SRA, peace prevails when there is mutual understanding between the TUC holder and the community during the negotiation process. However, violence occurs when the contractor or his workers refuse to fulfil their legal obligations. The incidences in the off-reserve area become violent only when the permit holder or chainsaw operator refuses to pay compensation. Chainsaw millers often abscond before a confrontation arises.

The actors in this conflict type use different conflict management strategies to deal with the conflict incidences. In relation to the SRAs, negotiation is the most frequently used approach, followed by mediation by the FSD or the District Chief Executive officials when negotiation fails. In conflicts that arise from the SRA code of conduct, for instance when a contractor fails to repair a damaged bridge, local community members sometimes resort to either non-violent directive action and or violent action. Various approaches were reported to be employed when there is a confrontation between chainsaw millers and TUC holders. This includes mediation in cases in which the chief and TUC holders settle the matter or coercion in cases in which the offender is arrested. Sometimes millers pay a bribe when arrested to escape punishment. Alternatively, the offenders are fined by the FSD or prosecuted in the law court. Stealing among TUC holders can also be resolved through FSD intervention, in the event that the culprit pays a fine or is summoned to appear in court. The study revealed that TUC holders and chainsaw millers in off-reserve areas compensate the farmers for damaging their crop after a negotiation process to settle the issue. In the case of a TUC holder, the issue is resolved through mediation by a Forestry Official if negotiation fails (Figure 9.5).
Figure 9.5 Perceived spectrum of conflict management strategies employed in SRA, log theft and crop damage compensation conflicts in TUC areas (on and off reserve)

Respondents’ images and instruments regarding land-use conflicts
The conflict incidences in this category evolve in relation to boundary disputes and illegal farming. Boundary disputes occur in both on and off-reserve areas. Within the reserve, the actors include the CBAG members, farmers and forest guards. This conflict type arises because of unclear boundaries which make it difficult to distinguish between the forest boundary and people’s farmlands. In such cases, farmers often take advantage of the situation by extending farms into forest reserves or illegal clearing of new areas. It only becomes an issue when FSD officials or CBAGs/CFCs confront the farmer(s) with the illegal nature of their action. Associated with this is illegal farming within the reserve with underlying causes attributed to greed, hardship and poverty and lack of farmland. All the respondents reported that these conflicts are non-violent except one respondent from Kunsu-Nyamebekeyere No. 3 who reported that the destruction of the crops of an unauthorised farmer within the reserve resulted in a violent confrontation between the farmer and the FSD official. As far as seasonality is concerned, conflicts between CBAG members or forest guards and illegal farmers occur mainly at the onset of the farming season between February and March when land preparation begins. The prevailing mode in managing illegal farming or extension of farms into the reserve is crop destruction, although some of the respondents mentioned that, in cases in which the chief or a respectable community elder intervenes, the farmer is allowed to harvest the crops and is warned not to engage in illegal farming again.
When official complaints about unclear boundary lines between the forest reserve and farmland are sent to the FSD, the CBAG members might be employed to clear the boundary for wages.

Boundary disputes in off-reserve areas occur when there is a (i) hostile land takeover by neighbouring farmers or neighbouring farmers shift boundaries to acquire more land, (ii) sale of farmer’s land to a third party, or (iii) an inheritance problem with regard to land holding cocoa. Misunderstandings, arguments and the burning of farms were reported as being characteristics of this conflict type. Three respondents mentioned that the conflicts over land ownership and boundary-related conflicts are often difficult to resolve completely and may re-emerge when triggered by some personal misunderstanding among the parties. A conflict incidence related to farmland sold to another person in Kunsu-Nyamebekyere No. 3 could not be resolved at village level. The chief sent the case to the palace of the chief of Wioso, to whom he owes allegiance, with the request to mediate in the matter. According to the respondents the case was subsequently settled amicably, but it was a long time before a final decision was taken.

Proposed actions
The respondents were asked how they perceived the effectiveness of the conflict management outcomes. The majority of the respondents (83%) perceived the conflict management actors as being able to resolve all aforementioned conflict types. According to the respondents, effectiveness depends on two factors: the culprit’s acceptance of faults and the supremacy of the intervening actors. For the first factor, a common understanding among the conflict parties requires patience, the admission of fault and apologising to each other, as well as compensation for the affected party. Supremacy is vested in intervening actors such as the chief and elders, Unit Committee members, the court and the FSD, especially when the outcome is a fair verdict. However, 9% of the respondents felt that the conflicts they witnessed were not completely resolved and 8% of the respondents were not sure whether the conflicts had been resolved or not.

Among the factors that hinder effective conflict management outcomes, respondents mentioned inflexible and recalcitrant behaviour exhibited by some people and bad judgment by a party due to favouritism. Respondents proposed several roles for different stakeholder groups that could minimise conflicts in the production regime. During the validation meeting, the opportunity was used to present the survey outcomes and create consensus on roles for the different actors. According to this consensus, the chiefs and elders at community level could play advisory, educating, mediating and monitoring roles. The hybrid actors’ roles (i.e. those of the CBAGs and CFCs) should centre on collaboration with FC, traditional authorities and communities, as well as on education and advising on issues of forestry and support of preventing and mediating conflicts. The role for the FSD should include education, consultation and effective implementation of forestry activities such as the MTS and boundary clearing. Law enforcement agencies (i.e. the FSD, policy and military) must ensure efficient and fair enforcement and judgement. The local arm of government (i.e. the District Assembly) needs to engage the communities in education and support them by mediating in SRA negotiations (Box 9.1).
Discussion

The discussion is divided into two sections. The first section examines the challenges and opportunities in the production forest regime and the second section analyses the implications of the conflict outcomes for law enforcement under the VPA.

Challenges and opportunities within the production forest regime

Governance outcomes in a system (either desirable or undesirable or a blend thereof) depend on the interaction between the system-to-be-governed and the governing system. That is to say, the way society manages or allocates access to forest resources based on prevailing laws and the impact thereof on society determine how society responds to these arrangements and their impacts. Such an analysis of governance interactions between the system-to-be-governed and the governing system help to assess how and why governance implementation sometimes falls short of desirable outcomes (Chuenpagdee & Jentoft 2009).

The first challenge in the Tano-Offin production forest regime is what Peluso (1992 cited in Amanor 2005) termed the ‘progressive criminalisation of customary rights of forest access’. The Tano-Offin production forest contributes to the livelihoods of local people by providing plant and animal NTFPs for domestic use and cash, providing access to degraded forestland for farming under the MTS, engaging in chainsaw milling and earning wages by providing forest services (i.e. boundary clearing or working as a forest guard). This finding corroborates previous studies (e.g. Falconer 1992, World Bank 2001, Ros-Tonen & Wiersum 2005, Sunderlin et al. 2005) that indicate the various benefits local people derive from the forest to build their livelihoods. However, in Ghana’s forest reserves, most of these resources are accessed illegally, with the exception of collecting NTFPs for domestic use, which is considered a communal right in management plans (Kyereh et al. 2006). In such cases there is a clash between the system-to-be governed (i.e. the natural system and the human system) at local level and the governing system, due to issues of legality. However, local people do not acknowledge their actions as being a crime as defined by outside individuals or institutions and they violate state laws either as an act of defiance or in a desperate attempt to achieve subsistence, thus defying the law as an act of resistance (c.f. Amanor 2005: 16).

The second challenge is that the prevailing governing system restricts the legal access of timber harvesting to TUC holders in accordance with Act 547 (amended 617). This is an example of what Ribot & Peluso (2003:154) conceptualised as ‘bundles and webs of powers’, meaning powers that enable some actors to gain control and maintain access, like in a production forest where access control and gaining access to commercial timber harvesting is limited to forest managers and TUC holders. Those who perceive the governing laws as being unfavourable for their survival start to become ‘criminals’ when they access the resources in violation of the law and are apprehended (even if they find ways to slip past forest managers and law enforcement agencies in one of the ways indicated in Figure 9.5, i.e. negotiation with or without bribery or mediation through elite intervention). According to Nketiah et al. (2004), such criminal act – chainsaw milling – has become a ‘necessary evil’ in Ghana’s forestry sector, as it has become the main source of domestic wood supply in the country and a source of livelihood for many rural and urban households (Amanor 2005, Marfo 2010).
The third challenge relates to community benefits from forest resources, these can come from different sources. One of these ways is through community-based organisations such as CBAGs or CFCs (Chapter 5) that are given specific roles to play in forest management in exchange for an intermittent flow of wages. Unfortunately, the members of such organisations often receive no wages in the name of ‘voluntarism’. Benefits that trickle down as communal benefit mainly come from Social Responsibility Agreements.
and crop damage compensation for individual farmers as stipulated in Act 547 (amended 617). The laws give de jure right of benefits to the above actors and reluctance on the part of the timber contractor to fulfil these rights can lead to the suspension or termination of their operations. Unfortunately, due to poor education on forestry issues the communities and the farmers are not aware of their legal rights as enshrined in the SRA and crop damage compensation arrangements. As noted by Asare (2006), the legislation lacks specific regulations on how to determine compensation and ensure that farmers are ‘fairly compensated’. Similarly, determining what constitutes the 5% of stumpage fees to be given by the contractor to a community is unknown and hence the benefits are determined on the basis of discretionary assessment. This creates suspicion among the parties especially on the part of the local people. Although a study carried out in the late 1990s by Richards and Asare (1999)7 recommended two types of crop damage compensation to be paid to the farmers (i.e. physical damage to cocoa and/or crops by timber contractors and cocoa yield loss due to tree micro-environmental benefits), these recommendations have not yet been considered in policies. Most reported conflict cases relating to forest resources stem from these benefits right (Amanor 2005, Marfo 2006).

The fourth challenge is related to the conflicts inherent in natural resource use. The nine conflict types identified in this chapter can be classified under three categories: (i) conflicts related to forest resources, (ii) operational conflicts in TUC areas and (iii) land-use conflicts. Such conflicts are inevitable in complex, diverse and dynamic environments, where actors operate at different levels of scale (Buckles & Rusnak 1999, Castro & Nielsen 2003, Kooiman 2008, Chuenpagdee & Jentoft 2009). Each of the conflict categories are driven by both manifest conditions (i.e. confiscation of forest resources, the arrest of offenders, crop destruction, road barricades, disobedience of rules, etc.) and antecedent conditions (i.e. greed, economic hardship and poverty, reluctance to fulfil the social responsibility agreement (SRA) obligations etc.). The multiple causes are related to the diversity of actors from different levels of geo-political scale, ranging from those at community level to actors such as chainsaw millers, TUC holders and the FSD/Military team, which all compete to fulfil their own needs, objectives and interests.

Amidst these challenges, there are different opportunities as far as conflict management is concerned. The results show that actors and institutions involved in conflict management and resolution processes use a combination of coping strategies (see Glasl 1999, Moore 2003, Engel & Korf, 2005, Wehrmann 2008, Chapter 2). For example, log theft can be resolved at reserve level through negotiation, mediation or coercion, with the latter possibly being converted into negotiation as shown in Figure 9.5. Among the actors, the local traditional authorities play a more important role in conflict management than is often assumed. Literature suggests that they no longer have a say in forest resource allocation and management since forest resources fall under the custody of the central state (Ghana Constitution of 1992, Mayers & Kotey 1996). However, this study reveals that traditional authorities at local level continue to play an important role in the management and resolution of conflicts over these resources.

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7 See Richards & Asare (1999) for a detailed analysis of incentives for Ghanaian cocoa farmers to maintain timber trees and a calculation of the compensation rates that cocoa farmers in Ghana deserve. The compensation proposed refers to physical damage to cocoa and/or crops by timber contractors and compensation for cocoa yield loss due to loss of tree micro-environmental benefits such as nutrient recycling, soil and air temperature, loss of NTFPs etc. In addition to these two compensations comes ‘additional positive incentive payment’ to compensate the farmer for his skills in tree identification.
Implications of the conflict management outcomes on law enforcement under the VPA

Based on the analysis of survey results, four possible outcomes of conflicts and conflict management strategies were identified (see Figure 9.3). The first possible outcome is that **communities and farmers succeed and/or fail to materialise their benefits rights**. This is the case in the following situations:

- Communities fail to fulfil their benefit rights when TUC holders deny them their SRA or when illegal chainsaw operators log trees on farmlands and thereby negotiate benefits with individuals instead of the entire community.
- Communities only acquire benefit rights after effective negotiation about the SRA obligation between the communities and the TUC holders and if the latter adhere to the code of conduct related to the SRA. However, the regular occurrence of road blockades indicates that some negotiations fail. In such cases, local communities succeed in claiming their rights through mediation by either the FSD or the District Chief Executive or through coercive action until the TUC holders meet their demands.
- Farmers also fail to claim their crop damage compensation rights when chainsaw millers abscond.
- Compensation rights materialise when farmers are able to negotiate a ‘fair compensation’ with TUC holders. When negotiation fails, the FSD mediates.

The second possible outcome is that the communities and chainsaw millers’ gain and/or lose access to timber resources.
- **De facto** access is obtained by community members who illegally enter the forest reserve to gain access to farming land, NTFPs and, on a few occasions, to engage in chainsaw milling. Chainsaw millers beyond community settings gain access to timber resources. Both actors lose when they are arrested or confronted by forestry officials or law enforcement agencies.

The third possible outcome is that TUC holders lose timber to chainsaw millers and other TUC holders.
- Through theft, some of the logs within TUC areas are appropriated by chainsaw millers and sometimes by a neighbouring TUC holder with the excuse being unintentional trespassing.

The fourth possible outcome is that the FSD fails to materialise revenue rights due to illegal logging.
- In this case, the revenue intended for economic development and/or key stakeholders’ royalties go to individual pockets.

As indicated in Figure 9.3, the desirable outcome of conflict management is to improve the system-to-be-governed. However, among the identified outcomes only payment of SRA may have a positive impact on community development, while fines from illegal logging may help improve the management of the forest resources. In the latter case, however, there are so many escape routes (as indicated in Figure 9.5) that it may be difficult for the nation to generate sufficient revenue from fines to impact positively on the natural system. Furthermore, such revenues are probably insufficient to compensate for the damage done by illegal logging that escaped supervision by the FSD.
The outcomes indicate that stricter law enforcement under the VPA is urgently needed to save the forest resources. However, there is a risk that this will result in a temporary ‘pseudo-reduction’ of illegal forest activities. If the underlying factors as identified in this chapter and other studies are not addressed, the system may be reversed to its original state of illegalities. The situation may even escalate if local people, driven by need or greed, succeed in creating alternative routes to access the same resources despite stricter enforcement.

As asserted by Christy et al. (1997: 143), law enforcement plays an essential role in forest management, but is limited because of the complex nature of the forest and is therefore the last resort for obtaining compliance with the law. Several authors (Contreras–Hermosilla 2001, Kaimowitz 2003, Inoguchi et al. 2005, Owusu et al. 2010, Wiersum 2010) have therefore proposed complementing the hard or suppressive means of enforcement with ‘soft’ or ‘preventive and detection’ enforcement mechanisms. Based on the analysis in this chapter of the governability challenges within the production regime in Ghana’s forests, the aim is to contribute to this debate by presenting three issues for consideration in the design of strategies for soft law enforcement. First, develop the capacity of stakeholders (particularly resource managers and FSD frontline staff) in conflict management and integrate conflict management into the VPA system just as REDD+ has initiated (see Chapter 5). Second, enhance forestry extension by strengthening forestry education at local level. Lastly, engage inhabitants of forest fringe communities in forest management on a remunerated basis. To this end, the FC and other institutions should make efforts to secure funds from REDD+ and other climate-related financial mechanisms to enhance the budget available for such measures. The rationale behind this recommendation to align VPA and REDD+ mechanisms is that the factors that drive illegal logging are very much the same as those that drive deforestation. Access to climate-related funds will enable Ghana put into practice some of the actions proposed above, and thus tackle both VPA and REDD issues related to ensuring good forest governance.

Conclusion

Ghana derives most of its timber revenues from the production regime. This chapter revealed that interaction between the prevailing governing system and the human system poses challenges to the governability of the natural system. Local people and individuals from other levels of scale often access forest resources illegally and this is characterised by conflicts. Law enforcement as envisaged under the VPA is therefore essential. However, strict law enforcement has to be combined with an efficient strategy of soft law enforcement in the form of building conflict management capacity, promoting extension on forestry issues at local level and creating income-generating activities in forest management. The suggestion is that VPA and REDD+ processes should be aligned because the drivers of illegal logging and deforestation are very much the same, as are the objectives of both processes to improve forest governance.