Generation and utilization of community fund in small-scale community forest management in the Terai region of Nepal

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It has been widely recognized that constantly increasing community fund is one of the indicators of successful implementation of community forestry program in Nepal. However, a very few people know how the fund is collected under the program and it has been utilized so far. The paper is based on the generation and utilization of community fund of two-community forests in the Terai region. The community forests of the region have collected large amount of community fund annually from the sale of forest products and non-forestry sources as well. The study revealed that along with community fund increasing, office operation cost has been constantly increasing while utilizing the fund, whereas promotion of forest management and community development costs are essential for long-term sustainability of the program. Therefore, the study concluded that only the minimization of office operation cost could increase the forest management and community development costs based on the principle of trade-off, which is crucial to keep the people intact in community forestry program and its long-term sustainability.

Keywords: community forestry, community fund, Terai, Nepal

The past three decades have witnessed a significant growing concern on small-scale community forestry program in Nepal. The program has leading positions among the government programs since its inception (Kanel, 2004). The collection of community fund under the program has a number of synergetic effects on forest conditions and livelihood improvement. Consequently, the program has widely recognized from government to non-government sectors as well. Moreover, the collection of community fund from the sale of forest products and non-forestry sources as well has been taken as an indicator of successful implementation of the program (Kanel and Niraula, 2004). However, how does a community forest have colleted a fund and utilized it, a very few people know so far. The community fund has created a number of wider potentialities of further development of forests, support community development and re-generate income of poor people in the line of poverty reduction strategy of the country (NPC, 2002; Kanel, 2004). The empowerment of local people to conserve, develop, manage and utilize the forests, and sell and distribute by fixing the price of forest products independently has playing an important role to collect a community fund (Government of Nepal, 1993).

In the discourse of forest management in Nepal, formulation of forestry sector master plan in 1989, re-structure of forestry sector organizations in 1990, revise of forest act in 1993 and regulation in 1995, and continuous orientation and training to government officials have substantial impacts behind the successful implementation of community forestry program and community fund collection. The ever-increasing numbers of Community Forest User Groups (CFUGs) showed that one-fifth of the total forestland and two-fifth of the total country population covered by the program (CBS, 2003; Kanel, 2004; Kandel and Kanel, 2006). The studies carried out on policy analysis, institutional stability and participation also claimed that the community fund has positive effects on forest conditions and livelihoods improvement (Vurghese, 1999; Malla, 2000; Chokraborty, 2001; Baral, 2002; Gautam *et al*, 2004; Bampton *et al*, 2004; Kanel and Niraula, 2004; Kanel, 2004; Agrawal and Gupta, 2005; Adhikari, 2006a; Dhakal, 2006; Gautam, 2006; Iversen *et al*, 2006; Maskey *et al*, 2006). Moreover, the collection of community fund has vital role to local and national economy back up (MPFS, 1989; Hill, 1999; Adhikari, 2006b; Dhakal and Masuda, 2007). The positive effects of the program have been diffused to other domain of natural resource management sector such

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as watershed and protected area management as well (Kanel, 2004; Agrawal and Gupta, 2005). However, how does a community forest generate a community fund and how it is utilized focusing to the sustainability of the program have seldom studied in the past. Therefore, the study focused on generation and utilization of community fund taking the example two-community forests of Terai region, which is crucial to keep the people intact in sustainable community forestry program.

Materials and Methods

The study was carried out in the Nawalparasi district, which is located in the western Terai region of Nepal. The specific study sites were located in the eastern part of the district (Figure 1). From the list of community forests of the district, two community forests i) Dhuseri, and ii) Sundari, community forests were selected based on the following criteria: i) community forests that have natural Sal (*Shorea robusta*) forests and ii) having relatively long experiences of community forest management (Table 1). Since the Terai forests have higher economical potential, the study focused on how a community forest generate a community fund and utilize it to improve the forests conditions and livelihood of local people. Since the majority of forests surrounding people have poor socio-economic backgrounds in the region, the collection of community fund have substantial effects on forests and livelihood improvement of local people collectively.

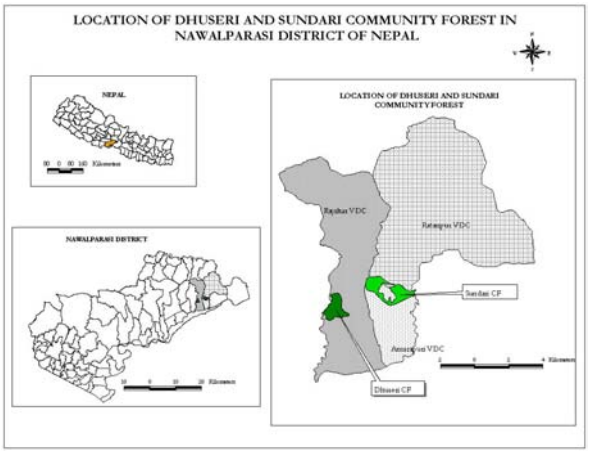


Figure 1. Location of study sites

Source: District forest office, Nawalparasi

The field survey was carried out in April 2005 and a supplementary visit was conducted in March 2006. A series of meetings with government officials, executive committee members, and user households were organized to understand the sources of community forest incomes and expenditures adopted by the CFUGs. Individual to group level discussion and direct field observation were accomplished in both forests. The annual auditing reports of annual incomes and expenditures from fiscal 1999 to 2004 were collected. The total expenditures items were categorized into three headings: forest management, community development and office operation for analyzing and comparison.

Table 1. Basic characteristics of community forests

Forest	Area (ha)	Household	Forests/ Household
Dhuseri	205	662	0.31
Sundari	384	1,032	0.37

Source: Operational plan of respective community forests, 2005

Results and Discussion

Generation and utilization of community fund

Sources of community fund collection

Although the fundamental aim of the community forestry program of Nepal was to supply the forest products to the local users on a sustainable basis, community fund collection has becoming one of the raising issues in the recent years. In the discourse of program implementation, CFUGs have created a number of forestry and non-forestry sources and collected a community fund. Since the forest products have higher economic potential in the Terai region, the case is more prominent to the region. The forestry sources include sale of timber, firewood, and fodder/ grasses, whereas non-forestry sources are registration fee, membership fee, penalty fee, and support from government and NGOs. Consequently, the collection of community fund and carry out of community development and livelihood improvement activities in the line of poverty reduction were becoming indispensable part of sustainable community forest management (Kanel, 2004).

In the case of Sal dominated community forests of Terai region, it has been observed that Sal timber, Bakal[3] and green firewood (produced at the time of harvesting and logging of utilization works) were the main sources of community fund collection. Dry firewood, fodder and grasses can be collected at free of costs in the designated time, and these forest products do not have financial contribution to the community fund collection. By community forestry rules, each community forests are independent to

[1] The outer part of sawn timber, CFUG sells it to the local people by weight. The average price of Bakal is NRs. 125 at Sundari forest and 75 at Dhuseri forest.

fix the price of forest products. The study found that Dhuseri forest has fixed NRs. 300/Cu. Ft., whereas Sundari forest has fixed NRs. 250/Cu. Ft. of Sal timber. On the other hand, Dhuseri forest has fixed NRs. 75/100kg firewood and Bakal, whereas NRs. 125/100kg by Sundari community forest (Table 2). The price table showed that Dhuseri forest fixed higher rate for Sal timber, whereas Sundari forest has fixed higher rate for firewood and Bakal. The situation revealed that community forests are independent to fix the price of forest products, but at the same time, there is no scientific reason behind the various rate of price fixation. Considering to the fact, the reason behind the fixation of minimum and various prices was asked to the executive members. The respondents replied that low price is affordable to poor people. But the minimum price rate of high value forest products have negative effects on community fund collection as sale of forest products were the main sources of community fund. Such minimum price rates always have possibility to create a separate room for corruption (which we can observed at Dhuseri community forest in 2003), and possibility of elite capture of major forest benefits (Iversen *et al*, 2006).

The formal and informal discussion with executive members also revealed that the CFUGs have fixed the minimum price of forest products based on the production costs, affording capacity of poor household, scope of community development at local level and minimum costs for CFUG office operation. Both Dhuseri and Sundari community forests have also followed same principle of 'thumb rule'. When a household purchased the forest products, the money paid by the household goes to the community fund. The trend of community fund collection from 1999 to 2004 in both community forests have found low in the initial stage and gradually increasing in the recent years (Figure 2). The ever-increasing community fund revealed that CFUGs were gradually extracted greater quantity of forest products from the community forests. The discussion with executive members also revealed that the inventory system has making easier them to extract the larger quantity of forest products as they expected earlier. The non-forestry sources were registration fee, membership fee, penalty, and sanctions in both forests. When we compared between forestry and non-forestry sources, we found that forestry sources have higher contribution to the fund (Figure 3).

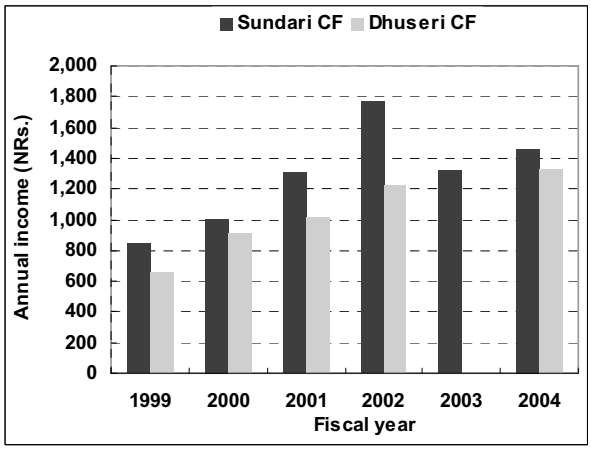


Figure 2. Trend of annual income

Source: Audit reports (1999 to 2004)

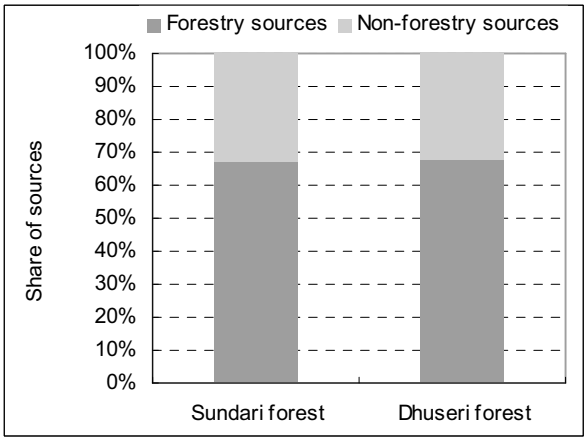


Figure 3. Sources of community fund

Source: Audit reports (1999 to 2004)

Moreover, when it was compared between annual income and forest area, it found that the per capita income of Dhuseri community forest is higher (NRs. 5,027/ha) than Sundari community forest (NRs. 3,434/ha); however, the forest does not have any income in the fiscal year 2003 because of corruption

Table 2. Forest products and their respective prices

Forest product types	Price of forest products	
	Dhuseri community forest	Sundari community forest
Timber (Cu. Ft.)	300	250
Bakal (NRs./100kg)	75	125
Firewood (green) (NRs./100kg)	75	125

Source: Respective community forests, 2005

scandal. The repeated selection of same leadership in the forest, eventually not only led to the over-confidence at executive committee level to take a monopolistic decision on community fund generation and utilization, but also it institutionalized the corruption while generating and utilizing the community fund. Taking to the issue on debate, the CFUG of Dhuseri community forest dissolved the executive committee in 2003 and formed new committee with a commitment not to repeat the corruption again in the following years. The case revealed that together with community fund collection and utilization, transparency in record keeping and reporting systems were equally crucial for successful community forest management.

Utilization of community fund

The annually collected community fund from 1999 to 2004 grouped into three types of costs based on the nature of expenditures namely: forest management, community development, and office operation. The forest management costs include all costs for plantation, regeneration, harvesting and logging works and salary of forest guards. Similarly, the community development costs include expenditure related to education, primary health, and income generation. The office operation costs include stationery, salary of office secretary, meeting allowance, auditing costs, purchasing of capital items and regular office operation costs.

Community fund for forest management

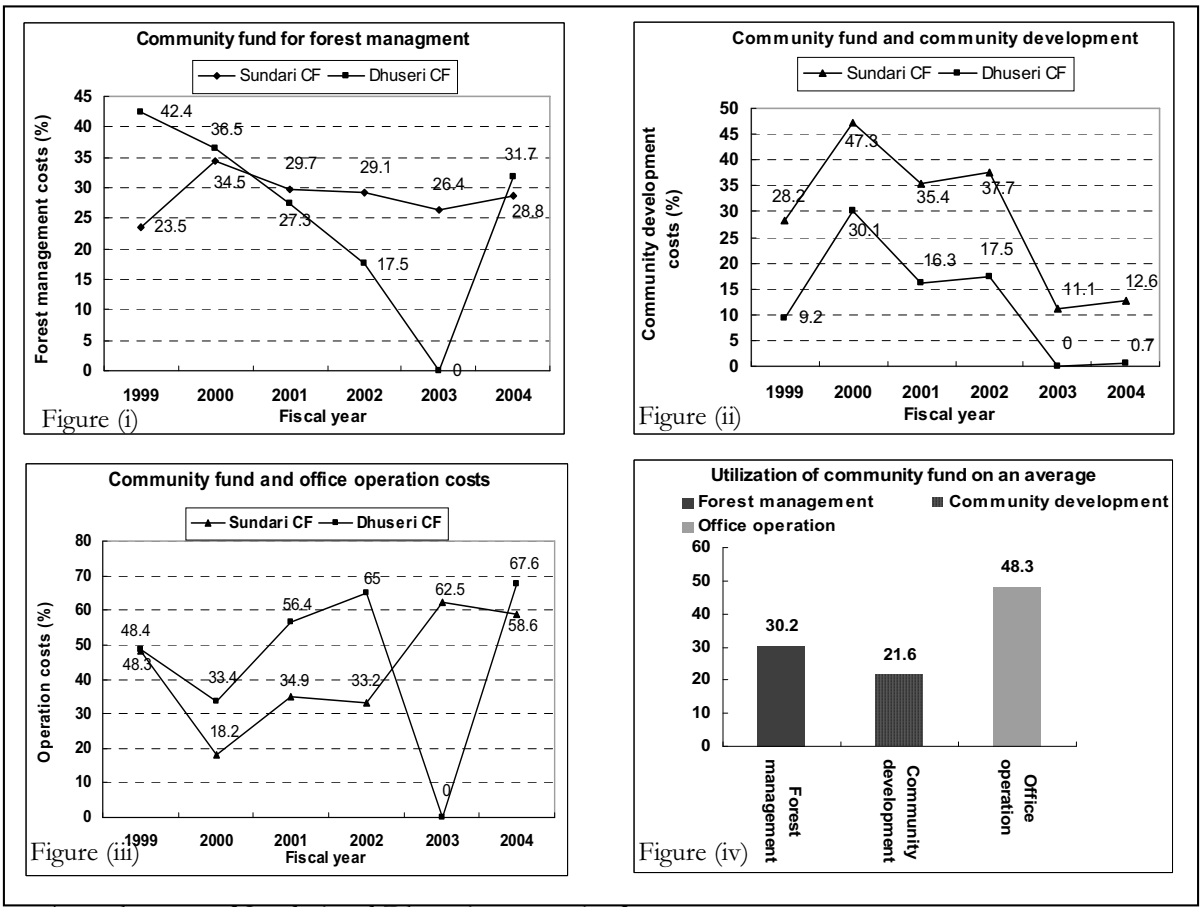
In the initial stage of community forestry program volunteer participation was common. After the initiation of community fund collection the volunteer participation has replaced by labor works (Table 3). Once a forest handed over to the local people, CFUGs have been carried out various activities of forest management. However, most of these activities were furnished from the budget of community fund, not as it was furnished by volunteer participation in the past in both forests. Volunteer participation can be observed only in forest fire control and silvicultural operation work, whenever forest fire rarely occurred in the forest and motivation of large quantity of firewood is the main attraction while participating in silvicultural operation. Other forest management activities such forest watcher salary, harvesting and logging works, nursery establishment, plantation activities were accomplished by the community fund. The study also revealed that the direct impact of community fund collection in the Terai region is volunteer participation has gradually decreasing while implementing the community forestry activities.

The average budget allocated to forest management activities from 1999 to 2004 explored that 31.1% and 28.7% of total annual budget have been used for forest management activities at Dhuseri and Sundari community forest respectively. The Sundari forest has allotted almost same amount of budget at each year, whereas the fluctuation ranges from 17.5% to 42.4% can be observed at Dhuseri community forest (Figure 4(i)). However, the major part of the budget has been used for harvesting and logging works in both forests. The budget allocated for forest development such as nursery establishment, plantation and introduction of medicinal and aromatic plants found very poor. In fact, the poor budget allocation for forest development activities raised the question of sustainability of the program as the population of the Terai region is constantly increasing, and there is a possibility of increasing demands of forest products from community forests. Considering to the possibility of poor priority of forest development, the government has made obligatory provision to invest at least 25% of total annual income on forest management and

Table 3. Forest management activities carried out by the community forests

Forest management activities	Dhuseri community forest		Sundari community forest	
	Community fund	Volunteer participation	Community fund	Volunteer participation
Forest watcher salary	√	X	√	X
Forest fire control	X	√	X	√
Forest road construction	√	X	√	X
Nursery establishment	√	X	√	X
Plantation	√	X	√	X
Forest road construction	√	X	√	X
Silvicultural operation	X	√	X	√
Harvesting & utilization	√	X	√	X

Field survey, 2005 and 2006



Source: Annual report of Sundari and Dhuseri community forests

Figure 4: (i, ii, iii and iv). Trend of community fund allocation on forest management, community development, and office operation from 1999 to 2004

development activities. However, both community forests counted the salary of forest guards and harvesting and logging costs as a part of forest management and development, whereas pure forest development activities such as plantation have poorly been carried out.

Community fund for community development

Community development has becoming an integral part of community forestry program in Nepal. Kanel (2004) claimed that community fund collection and carried out community development activities have linear relation in community forestry program. However, the amount of community fund depends on forest conditions and may vary from forest to forest (Malla, 2000). Both Sundari and Dhuseri community forests have used 28.9% and 14.8% of total annual income for community development activities respectively from the fiscal 1999 to 2004 on an average (Figure 4 (ii)). However, the ratio has frequently fluctuated to each year in both forests. The results showed that Sundari forest has better allocation of community fund for community development activities compare to Dhuseri forest. The major carried out community development activities were school support, drinking water scheme, rural road construction, and gravelling. However, poor households have taking poor benefits from community development activities for example irrigation support only benefit to the people who has irrigated land and gravelling of road who has transportation means such as motorbike, jeep and tractor. The trend of budget allocation reflected that both forests have allocated large amount of budget in the initial years and the rate has gradually decreased in the recent years. Nonetheless, Sundari community forest has allocated better amount of budget for community development activities in each year (Figure 4 (ii)). The crucial part of community development activity is it benefits to the household even though the household does not benefited from the direct forest benefits such as timber and firewood.

Community fund for office operation

The records of annual expenditures of both Dhuseri and Sundari community forests showed that 54.2%

and 42.6% of the total annual budget has been used for office operation purposes respectively. The trend of office operation costs have gradually been increased in the latest years (Figure 4 (iii)). The average office operation costs of two forests also showed that around half of the community fund used for office operation purposes (Figure 4 (iv)). The rate was declined in 2000 at 18.2% and 33.4% respectively at Sundari and Dhuseri forests; nonetheless, the ratio has always higher at Dhuseri community forest and continuously growing up. The results showed that office operation costs have been ever increasing along with community fund collection. Such costs have been reduced the opportunity costs of forest and community development activities. It has also raised the question of efficient and effective community forest management and reputation social leaderships of executive committee members. The overspending costs in office operation items have created disputes and a serious deadlock was occurred at Dhuseri forest in the fiscal year 2003.

Conclusion

Beside regular supply of forest products, generation and utilization of community fund is the main attraction towards the community forestry program in the Terai region of Nepal. Forestry sources have significant contribution to community fund collection. However, transparency is vital while generating the fund and its utilization in the line of objectives of the program. The corruption scandal at Dhuseri forest revealed that people seemed more sensitive on transparency of collected fund than sharing of direct forest benefits such as timber and firewood. Although forest products such as timber and firewood have characteristics of subtractability, (Ostrom *et al*, 1994), the generation of community fund has crucial role to keep the people intact in forest management objectives even though the household has excluded from the direct benefits of the forests. The overspending office operation costs seem negative consequences to reduce the opportunity cost of forest management and community development. The trend showed that the office operation cost has constantly increasing, whereas efficiency is prerequisites for long term sustainability of the program. Therefore, the study concluded that only the minimization of office operation cost could increase the forest management and community development costs based on the principle of trade-off, which is crucial to keep the people intact in community forestry program and its long-term sustainability.

References

Adhikari, B. 2006a. Local benefits from community forests in the middle hills of Nepal. *Forest policy and economics* **9 (5)**: 464-478.

Adhikari, B. 2006b. Transaction costs and community-based natural resources management in Nepal. *Journal of environmental management* **78 (1)**: 5-15.

Agrawal, A., and Gupta, K 2005. Decentralization and participation: the governance of common pool resources in Nepal's Terai. *World development* **33 (7)**:1101-1114.

Bampton, J., Vickers, B., Rana, B. and Statz, J. 2004. Community forestry in the Terai. In *twenty-five years of community forestry: contributing to millennium development goal* (eds.) Kanel, K. R. Mathema, P., Kanel, B. R., Niraula, D. R., Sharma, A. R. and Gautam, M. Proceedings of the fourth national workshop on community forestry, 4-6 August, 2004, Kathmandu.

Baral, J. C. 2002. Depleting forests, silent spectators: who should manage Nepal's Terai forest? *Journal of forest and livelihood* **2 (1)**:34-40.

CBS, 2003. Population census 2001. Central Bureau of Statistics, Kathmandu.

Chakraborty, R. N. 2001. Stability and outcomes of common property institutions in forestry: evidence from the Terai region of Nepal. *Ecological Economics* **36**:341-353.

Dhakal, M. 2006. Participatory management of lowland forests for improving local livelihood: a case study of Nawalparasi district, Nepal. Unpublished Master's thesis in Environmental Sciences, University of Tsukuba, Japan.

Dhakal, M. and Masuda, M. 2007. Community forest management in the Terai region of Nepal: contribution to the local and national economy. In *Cross-Sector Policy Development in Forestry,* (eds) *Y.C.* Dube and F. Schimithusen, Food and Agriculture Organization of United Nations, Rome.

Gautam, A. P., Shivakoti, G. P., and Webb, E. L. 2004. A review of forest policies, institutions, and changes in the resources condition in Nepal. International forestry review **6 (2)**: 136-148.

Gautam, K. H. 2006. Forestry, politicians, and power-perspectives from Nepal's forest policy. *Forest policy and economics* **8**:175-182.

Hill, I. 1999. Forest management in Nepal: economics and ecology. World Bank technical paper no. 445, Washington DC.

Iversen, V., Chhetry, B., Francis, P., Gurung, M., Kafle, G., Pain, A. & Seeley, J. 2006. High value forests, hidden economics, and elite capture: evidence from forest user groups in Nepals's Terai. *Ecological Economics* **58**: 93-107.

Kandel B. R. and Kanel.K. R. 2006. Achievements and challenges of community forests (Nepali version). In *Hamro Ban*. The annual report of Department of Forest 2061/2062 B.S., Kathmandu.

Kanel, K. R. and Niraula, D. R. 2004. Can rural livelihood be improved through community forestry? *Bank janakari*, **14 (1)**: 19-26.

Kanel, K. 2004. Twenty-five years' of community forestry: contribution to millennium development goals. In *twenty-five years of community forestry: contributing to millennium development goal* (eds.) Kanel, K. R. Mathema, P., Kanel, B. R., Niraula, D. R., Sharma, A. R. and Gautam, M. Proceedings of the fourth national workshop on community forestry, 4-6 August, 2004, Kathmandu.

Malla, Y. B. 2000. Impact of community forestry policy on rural livelihoods and food security in Nepal. *Unasylva* **51**: 37-45.

Maskey, V., Gebremedhin, T. G., and Dalton, T. J. 2006. Social and cultural detriments, of collective forest management of community forest in Nepal. *Journal of forest economics* **11**: 261-274.

MPFS, 1989. **Master plan for forestry sector**. Ministry of Forests & Soil Conservation, Kathmandu.

NPC, 2002. Poverty reduction strategy plan. National Planning Commission, Kathmandu.

Ostrom, E., Grander, R., and Wakar, J. 1994. **Rules, games and common pool resources.** The University of Michigan Press, USA.

The Government of Nepal, 1993. Forest Act 1993. Ministry of Law and Affairs, Kathmandu.