

Common Property Resources in North East India- An Exploration of the Extent of Availability and Peoples' Dependency

Rabinjyoti Khataniar¹

Shahnaaz Benazir²

Padma Sharma³

Abstract

The common property resources in Northeastern Region represent diverse characteristics in terms of its availability, peoples' dependency and extent of depletion. The access to this type of resources is determined by tradition and custom of the people and some un-codified customary laws are effectively prevailing in the region. So far availability of cprs is concerned it was observed that the eastern Himalayan state of Arunachal Pradesh occupies the largest share in distribution of cprs among the north eastern states which include mostly forest and tree cover.

The dependency of the people on cprs is due to numbers of socio-economic factors like predominance of jhum cultivation, poor road connectivity and transport facility, lack of market access, traditional thought and belief etc. Therefore people's dependency on CPRs varies across the states, demographic and economic criterion. The ANOVA analysis also supports the fact that there is significant variation in peoples' dependency across different regions, between different economic and demographic groups.

1.1 Key words: Common property resource, Tribals, Dependency, Traditional institution, Management.

Introduction

Common property resources (cprs) can simply be understood as community's natural resources which are accessible to the whole community with specified obligation and to which no individual has exclusive property right (Jodha, 1995). The right and practices governing the access to these resources are generally conventional. In Indian context, cprs include community pastures, community forests and wastelands, common dumping and threshing grounds, watershed drainages, village pastures and grazing ground, protected and un-classed government forests, village ponds, rivers/rivulets as well as their banks and beds (Gowda and Savadatti 2004, NSSO, 54th Round).

A good numbers of research works have been found in India dealing with various issues of cprs ever since the publication of Garret Hardin's influential article 'The Tragedy of Commons' in 1968 (Harmendorf, 1985, Jodha, 1986, Bokil, 1996). Various empirical studies also show that consumption of environmental goods beyond the level of sustainable yield lead to the depletion of cprs and degradation of the nature in turn (Ramakrishnan, 1987, Chopra and Dasgupta, 2002). In regard to policy suggestions most of these literatures emphasized the role of efficient collective action and participation in CPR

1 Assistant Professor, Department of Economics, B.H.College, Howly, Assam

2 Assistant Professor, Department of Economics, Cotton College, Gauhati

3 Associate Professor, Department of Economics, Cotton College, Gauhati

management system so as to ensure the sustainable use of these resources.

The north-eastern region of India is endowed with rich natural resources like forest, water resources, wild life, etc. The region is inhabited by over 220 ethnic groups each having their own traditional institution of resource management, exchange and distribution that contribute to the human mass in the state. The hills states in the region like Arunachal Pradesh, Meghalaya, Mizoram and Nagaland are predominantly inhabited by tribal people with a degree of diversity even within the tribal groups. Moreover, all the states of North Eastern India have a good percentage of forest area and a large population depends on forest for survival. Under the circumstances, present study envisages the status of cprs in the north eastern region, highlighting the extent of people's dependency and depletion of cprs.

1.2 Objectives of the Study

- i. The specific objectives of the study are set as follows:
- ii. Assess the nature and availability of common property resources in north eastern states.

Estimate the extent and nature of dependency of the people on cprs.

1.3 Working Hypotheses

- i. It is hypothesized that people's dependency on CPRs varies across the states, according to demographic and economic criterion.
- ii. It is hypothesised that average size of cprs and private property is complementary.

A. CPRs in North East India- Nature and Extent of Availability

➤ Nature of cprs in Northeast

The classification of land is of very complex nature in Northeast. Therefore, the term CPRs conveys a different meaning in the Northeast from that in Mainland India. Commonly, three categories of land are observed: i. Land owned by the village collectively, ii. Land owned by the chieftain, iii. Land owned by individual families (Ganguly, 1978). The first two categories of land are considered as cprs and the third one is private land. However, the classification is not very rigid and doesn't follow a common definition because of the diverse nature of ownership. The four states of the region namely Arunachal Pradesh, Meghalaya, Mizoram and Nagaland have a tribal majority where customary law and norms are followed in defining ownership.

In the non-scheduled areas of Assam there are three types of land – *patta* (individual ownership), *Aksonia* (temporary) *patta* and non-*patta* or *khas land* or CPRs. *Patta* land is owned in perpetuity on payment of a tax. *Aksonia* *patta* is usually for one year. *Khas* land is considered State property and its inhabitants are treated as encroachers. However, this definition does not hold good in the Sixth Schedule areas where the village headman play a role under the DAC and defines the CPRs to the customary law. However, land is under the direct control of the DAC.

The ownership of land and the individual right to use it is determined by tradition and custom of the people. Some un-codified customary laws are effectively prevailing in the region. Among the Nagas in Manipur, the land is held under the village council or the clan and no alienation is permitted under the customary laws (Singh and Devi 1991: 55-56). The Kuki-Chins do not have individual ownership. The chief of the Kuki village owns the land. The rent paid by each jhum cultivator to the chief within the chief's village varies from 3 to 5 tins of paddy. The right enjoyed by the chief is neither proprietary nor hereditary in nature and his office goes from one clan to another by rotation (Nongkynrih forthcoming).

The land tenure systems practiced amongst the different tribes of Arunachal Pradesh may be de-

scribed as follows:-

i) Village or community land: It includes outlying forest land use for hunting and forest produces. Sometimes these land earmarks separately clan and sub-clan.

ii) Clan land: In the area where the shifting method of cultivation is followed, all lands as a principle belong to the clan or village.

iii) Individual land: The individual ownership of land is by inheritance or by purchase. However, selling and purchasing can be made within the village community only.

While the forest land is concerned, almost all the tribes have community forest which is under the execution of the village community. In some areas, clan ownership of forest land is also recognized within the village jurisdiction. The total forests cover of the State is accounted for 61.54 (51,540 sq.km.) per cent of the total geographical area of 84,743 square kilometers. Again 61.43 per cent (32,039sq.km.) of the total forests cover is identified as Un-classed State Forest (State Forest Report, 2001). However, the emergence of individual ownership of forest has been observed in the State as a whole. It is of recent origin in the constitutional shift from community forest ownership to individual forest ownership in the ownership pattern of forests.

➤ Availability of cprs in Northeast

The eastern Himalayan state of Arunachal Pradesh occupies the largest share in distribution of cprs among the north eastern states which include forest and tree cover. Both the average size of cprs own by the households and the cprs as percentage to the total geographical area owned are the highest in Arunachal Pradesh followed by Nagaland in terms of average size of cprs owned and Meghalaya in terms of percentage of cprs to total geographical area. Detail is furnished in table-1. It is to be noted that though the NSS 54th round report has furnished data for Mizoram yet it is detected as outlier so cannot be taken for further consideration.

Table-1: Availability of cprs in Northeast.

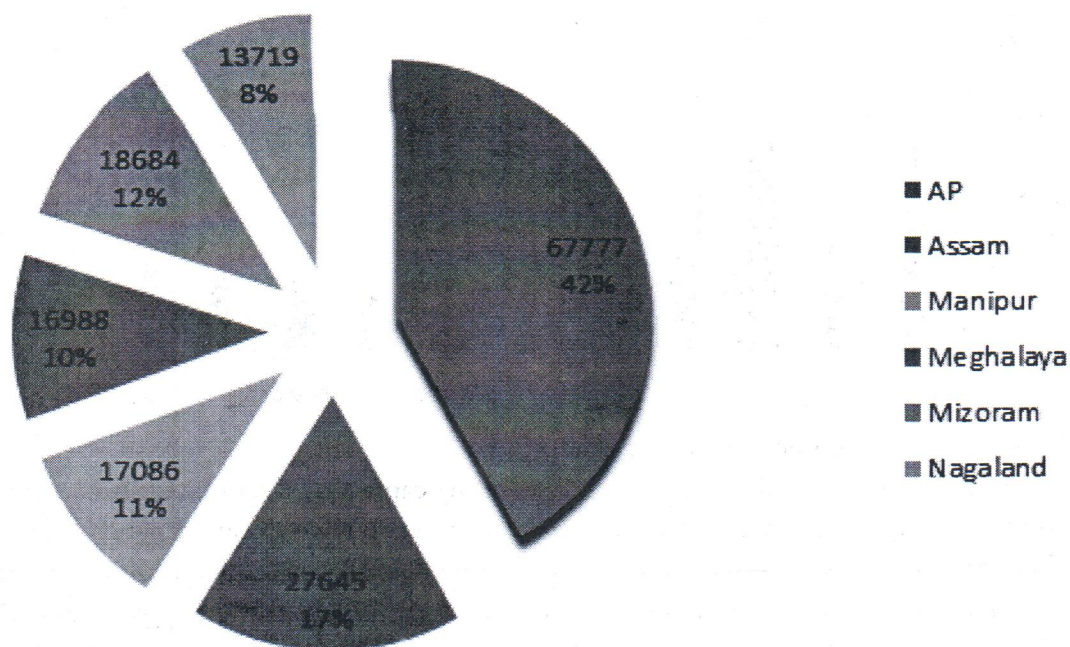
States	Area own per household	Cpr land per household	Cprs as percentage total area own
1	2	3	4
Assam	0.79	0.05	6.33
Arunachal Pradesh	1.52	1.15	75.66
Manipur	0.66	0.17	25.76
Meghalaya	1.02	0.72	70.59
Mizoram	0.36	4.37	1213.89 ◀ Outlier
Nagaland	2.68	1.49	55.60
Tripura	0.30	0.10	33.34
Sikkim	0.49	0.25	51.02
India	0.84	0.31	36.90

Source: NSS 54th Round, January 1998 – June 1998

Forests constitute an important part of cprs, as such its existence can be emerged from the availability of forest cover. Following figure (Fig-1) shows the distribution of forest cover and tree cover among the Northeastern states based on the data published by CSO, 2007. These data shows that the state Arunachal Pradesh have the highest share in distribution of forest cover among the Northeastern states accounted for 42 percent. Assam shares 17 percent of the total forest cover in NE. This finding

seems to be against the findings furnished in table-1 where the cprs as percentage to total geographical area in Assam is recorded as 6.33 only. Such contradiction is arising due to the fact that in Assam forest is mostly owned by Forest Department and Individuals which cannot be considered as cprs. On the other hand in the states like Meghalaya, Nagaland, etc. a significant portion of the total forest cover belongs to community and hence considers as cprs.

Fig-1: Distribution of Forest Cover in NE States(km²)



Source: CSO, 2007

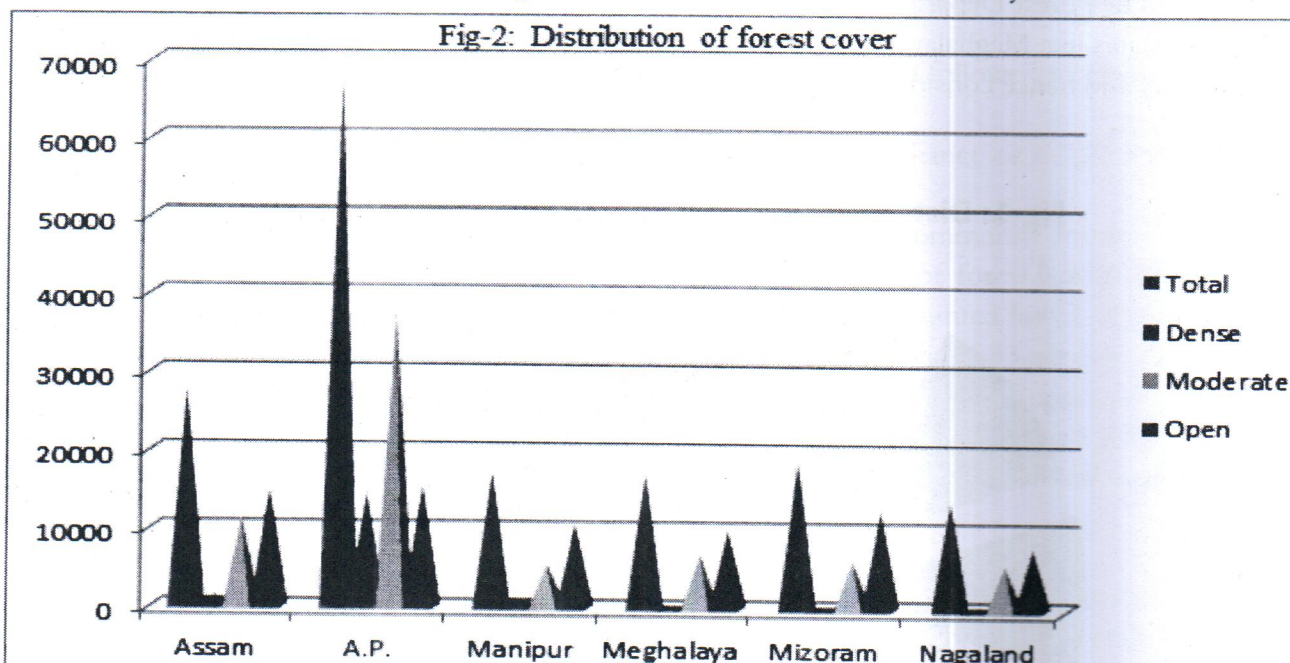
Table-2: Extent of forest covers in Northeast (km²)

States	Geographical area	Forest cover			Total
		Very dense	Moderately dense	Open forest	
Assam	78438	1444	11387	14814	27645
Arunachal Pradesh	83743	14411	37977	15389	67777
Manipur	22327	923	5542	10622	17086
Meghalaya	22429	338	6808	9842	16988
Mizoram	21081	133	6173	12378	18684
Nagaland	16579	236	5602	7881	13719
Tripura	10486	61	4969	3125	8155
Sikkim	7096	498	1912	852	3262

Source: CSO, 2007

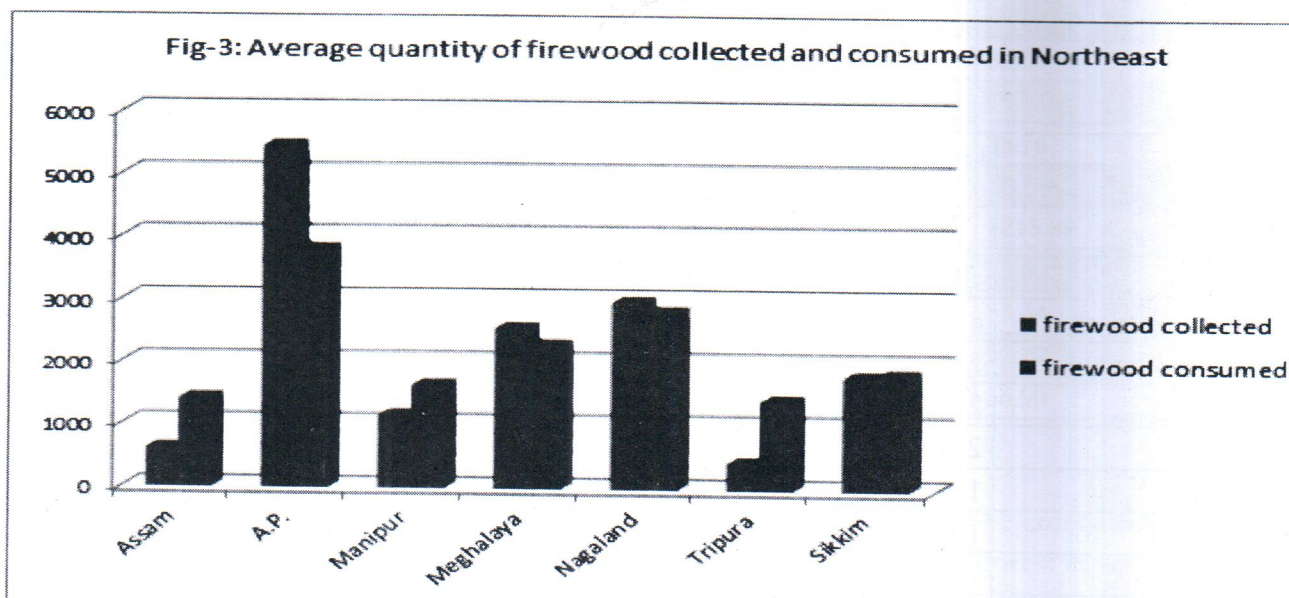
Following table and figure (table-2 & Fig-2) show the extent of forest cover in Northeastern

states in terms of total forest, very dense forest, moderately dense forest and open forest. The forest cover under each head is found to be highest in Arunachal Pradesh followed by Assam.



B. Peoples' dependency on CPRs

The role played by CPRs in the rural economy cannot be overlooked. It benefits its population in a number of ways. It provides fuel and fodder, house construction materials, leafy vegetables, roots, timbers, firewood, etc. The dependency of the people on CPRs is due to numbers of socio-economic factors like predominance of jhum cultivation, poor road connectivity and transport facility, lack of market access, traditional thought and belief etc. Therefore people's dependency on CPRs varies across the states, demographic and economic criterion.



The figure-3 shows that dependency of the people on CPRs in terms of firewood collection.

Table 4 present ANOVA analyses between poor and non-poor households in terms of firewood consumption. The F ratio is calculated to be 9.340 which is significant at 0.01 level. Thus the analysis reveals that the average quantity of firewood consumption substantially varies between poor and non-poor households.

Table:3: Descriptive Statistics

Fuelwood consumption/person/30days

Category of hhs	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Rural	8	36.8000	15.33996	5.42349	23.9755	49.6245	23.10	68.60
Urban	8	16.4000	11.00584	3.89115	7.1989	25.6011	.90	33.40
Total	16	26.6000	16.65281	4.16320	17.7263	35.4737	.90	68.60

Source: NSSO.1997, Report No-404

Table-4: ANOVA

Fuelwood consumption/person/30days

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1664.640	1	1664.640	9.340	.009
Within Groups	2495.100	14	178.221		
Total	4159.740	15			

Source: NSSO.1997, Report No-404

The ANOVA analysis is also extended to explore the significant differences, if any, between the subjective factors, i.e. states. The findings are presented in the table-3.4. Prior to that we have tested the null hypothesis that the error variance of the dependent variable is equal across groups (Table-6)

Table5: Levene's Test of Equality of Error Variances^a

Dependent Variable: Fuelwood consumption/person/30days

F	df1	df2	Sig.
	15	0	.

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + states + Demography

Table - 6: Tests of Between-Subjects Effects

Dependent Variable: Fuelwood consumption/person/30days

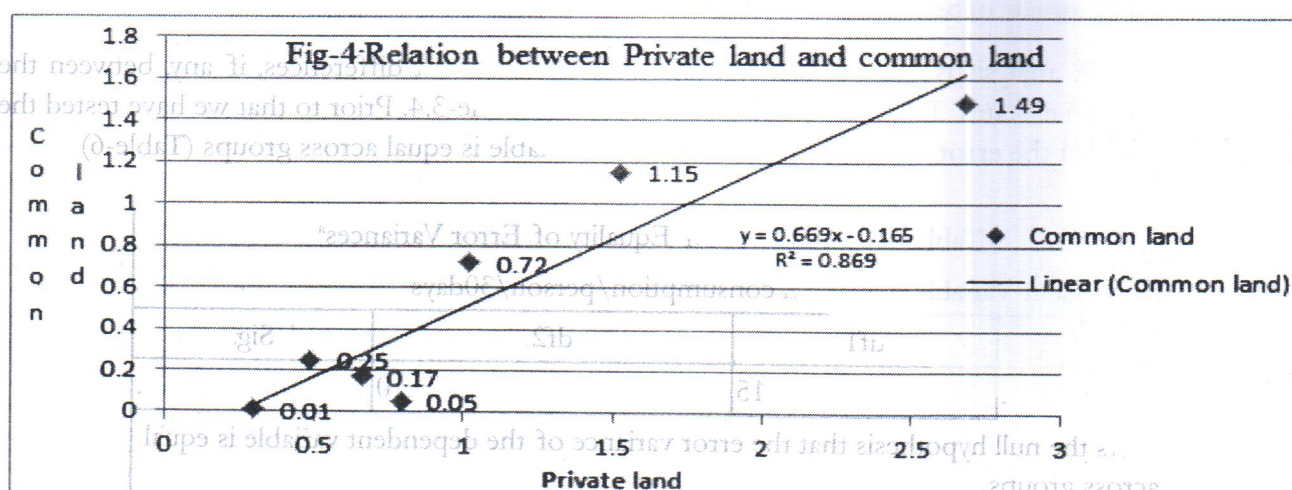
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Corrected Model	3593.660 ^a	8	449.207	5.555	.018	.864	44.438	.864
Intercept	11320.960	1	11320.960	139.992	.000	.952	139.992	1.000
States	1929.020	7	275.574	3.408	.064	.773	23.854	.629
Demography	1664.640	1	1664.640	20.585	.003	.746	20.585	.971
Error	566.080	7	80.869					
Total	15480.700	16						
Corrected Total	4159.740	15						

a. R Squared = .864 (Adjusted R Squared = .708) b. Computed using alpha = .05 Source: NSSO.1997, Report No-404

The study also reveals that people's access to common property is mostly determined by their size of private property¹ in respect of land resources, i.e. ownership of common land and private land are complementary. This is clear from the very high degree of correlation coefficient between these two as shown in the figure-4 given below.

The high degree of interrelationship between common property and private property may be linked with numbers of factors. One reason behind it is that there exist common use of private property particularly in some seasons as in the cases where cultivated land are used for grazing between crops, fields submerged during monsoon are used for fishing etc. All such land which are in practice used as common resources were treated as CPRs for data collection NSS report. Therefore in a region where there is greater availability of cprs, there is also greater availability of private land.

Another reason for observed positive association between State-level estimates of average land owned and common land per household is no doubt due to the fact that population pressure, which restricts the amount of land owned per household, also limits the amount of CPR land available per household (NSSO, 54th Round)



Source: NSSO 54th Round

¹ It include natural private capital like land holding.

Conclusion

The study reveals that the extent of the dependency of the people on cprs varies across demographic groups, economic criterion and regions. The extreme dependency of the people on forest for day to day requirement along with commercial extraction has brought about significant changes to the stock and quality of forest resources which became a threat for sustainability and management of these resources (Jodha, 1986, Chopra and Dasgupta, 2002). However there is no such universally accepted common measure of cprs depletion. Unfortunately, the development agencies of the States have achieved little success in designing and implementing effective management and conservation policies of cprs. Thus the study suggests policy initiation for sustainable management of cprs through the ensured participation of actual users of these resources in the management process.

References

1. Chopra, K. and P. Dasgupta (2002) Common Pool Resources in India: Evidence, Significance and New Management Initiatives. Mimeo under the UK DFID Project, P: R7973.
2. CSO (Central Statistical Organization) (2007): National Income Statistics, Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
3. Demsetz, H. (1967): "Towards theory of property rights", *American Economic Review*, Vol. 52, No. 2, pp. 347-377.
4. Gowda MN, Saradatti PM (2004): "CPRs and rural poor: Study in North Karnataka", *Economic and Political Weekly*, 39(33): 3752-3757.
5. Haimendorf, C. V. F. (1985): "Change and development among tribes of Arunachal Pradesh", in Haimendorf (ed), *Tribes of India- The Struggle for Survival*, Oxford University Press, New Delhi.
6. Hardin, G. (1968): "The Tragedy of Commons", *Science*, No. 162.
7. Helitberg, R. et al. (2000): "Fuelwood consumption and forest degradation: A household model for domestic energy substitution in rural India", *Land Economics*, Vol. 76, No.2, pp. 211-231.
8. Jodha, N. S. (1985a): "Population growth and the decline of common property resources in Rajasthan, India", *Population and Development Review*, Vol. 11, No. 2, pp. 247-64.
9. ————— (1985b): "Market process and erosion of common property resources", *Agricultural markets in semi-arid tropics*: Proceedings of an International workshop, October 24-28, International Crop Institute for Semi-Arid Tropics (ICRISAT), Patancheru (AP), India.
10. ————— (1986b): "Common property resources and the rural poor in dry regions of India", *Economic and Political Weekly*, Vol. 21, No. 27, pp. 169-181.
11. Ramakrishnan, P. S. (1987): "Energy Flow and Shifting Cultivation", in T. M. Vinod Kumar and D. R. Ahuja, (eds), *Rural Energy Planning for the Indian Himalayas*, Wiley Eastern, New Delhi, India, pp. 247-276.
12. Khataniar, R. (2011): "Household Energy Consumption in India and Eastern Himalayas-Social and Economic Dimensions" LAMBERT Academic Publishing, Germany