

clare_2019_modelling_research_topic_trends_in_community_forestry

Year

2019

Author(s)

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Title

Modelling Research Topic Trends in Community Forestry

Venue

Small-scale Forestry

Topic labeling

Manual

Focus

Secondary

Type of contribution

Established approach

Underlying technique

Manual labeling

Topic labeling parameters

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Label generation

In this paper, the topics are presented and then labelled. Those labels, meant to enhance data visualization, are our thematic interpretations of the words that were highly associated with each topic and were not generated by the model itself.



Topic Number	Label	Highest probability terms	Frequent and exclusive (FREX) terms
1	CF Policies	forestri, polici, paper, govern, countri	decad, polici, reform, allevi, forestri
2	Biodiversity Conservation	local, conserv, area, protect, land	park, protect, zone, biodivers, communal
3	Joint Management	manag, resourc, institut, state, local	joint, ifm, india, co-manag, arrang
4	Silviculture	speci, tree, manag, regener, plant	speci, regener, seedl, tree, densiti
5	Development Projects	project, research, develop, social, model	project, cameroon, methodolog, health, model
6	Economic Development	forestri, develop, govern, econom, resourc	partnership, organiz, agrarian, discours, sector
7	Local Institutions	collect, institut, group, action, resourc	action, collect, rule, fuelwood, contract
8	Participation	develop, manag, sustain, participatori, system	cooper, collabor, participatori, develop, agenc
9	Resource Users	household, user, group, benefit, incom	cfug, user, household, incom, poor
10	Power	power, govern, actor, local, polit	power, actor, polit, neoliber, decentralis
11	Agriculture	agricultur, farmer, land, food, livelihood	farmer, food, farm, agricultur, crop
12	REDD and Tenure	redd, cfm, tenur, local, right	cfm, redd, tenur, emiss, climat
13	Local Management	manag, local, use, indic, studi	stakehold, criteria, indic, knowledg, monitor
14	Carbon Sequestration	carbon, stock, manag, redd, degrad	stock, carbon, payment, sequestr, estim
15	Land Cover Change	chang, land, deforest, cover, use	cover, rate, cbf, chang, deforest
16	Local Outcomes	household, livelihood, use, survey, data	cbfm, survey, quantit, household, type

17	Gender	women, particip, gender, forestri, group	gender, women, men, particip, margin
18	Conflict	social, conflict, forestri, environment, manag	conflict, organis, dynam, capit, social
19	Commercial Timber	timber, product, manag, market, smallhold	smallhold, timber, commerci, profit, plantat
20	CFEs and Certification	certif, cfes, enterpris, log, mexico	cfes, certif, cfe, fsc, oaxaca

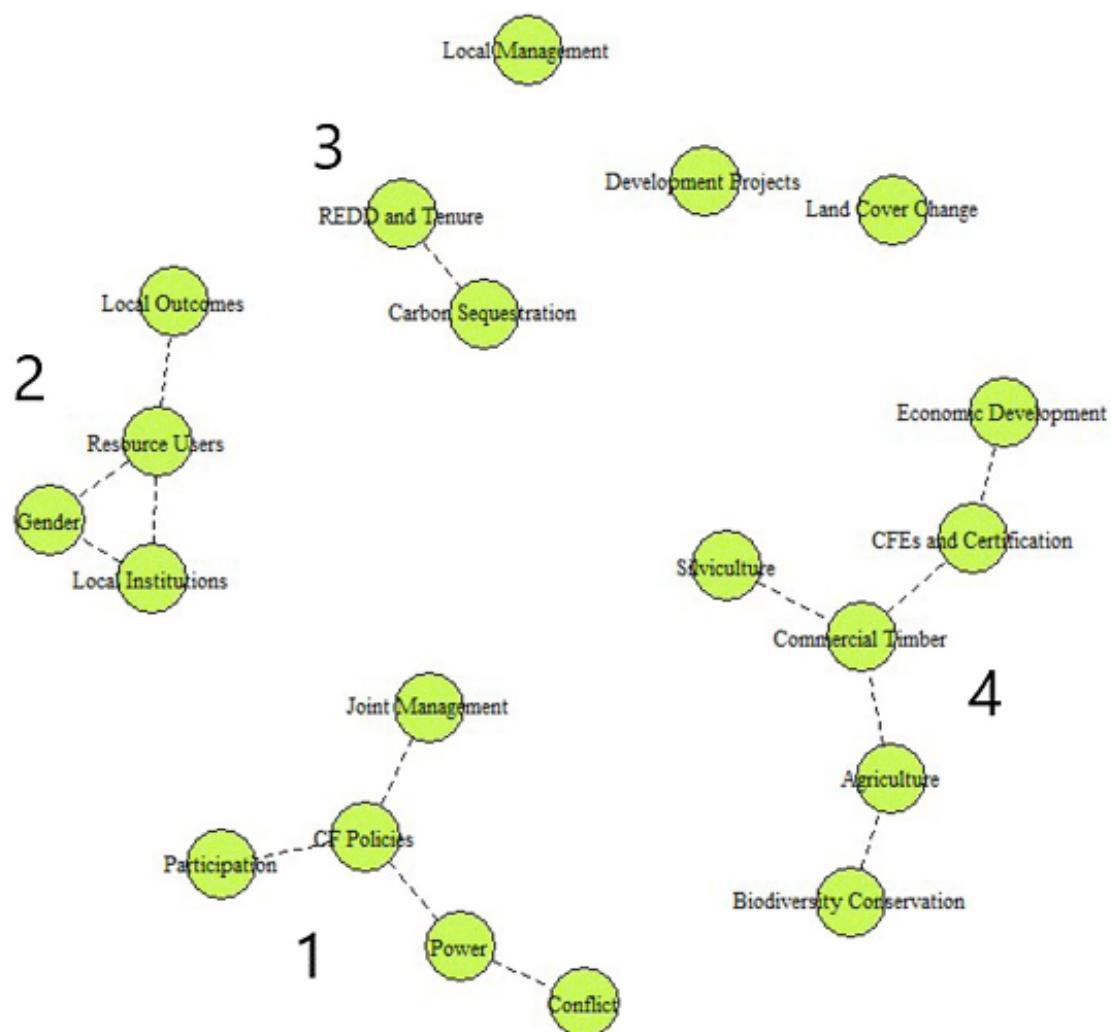


Fig. 6 Topic correlation map. Dashed lines indicate topic pairs with covariance > 0.01. Four main groups of correlated topics are identified

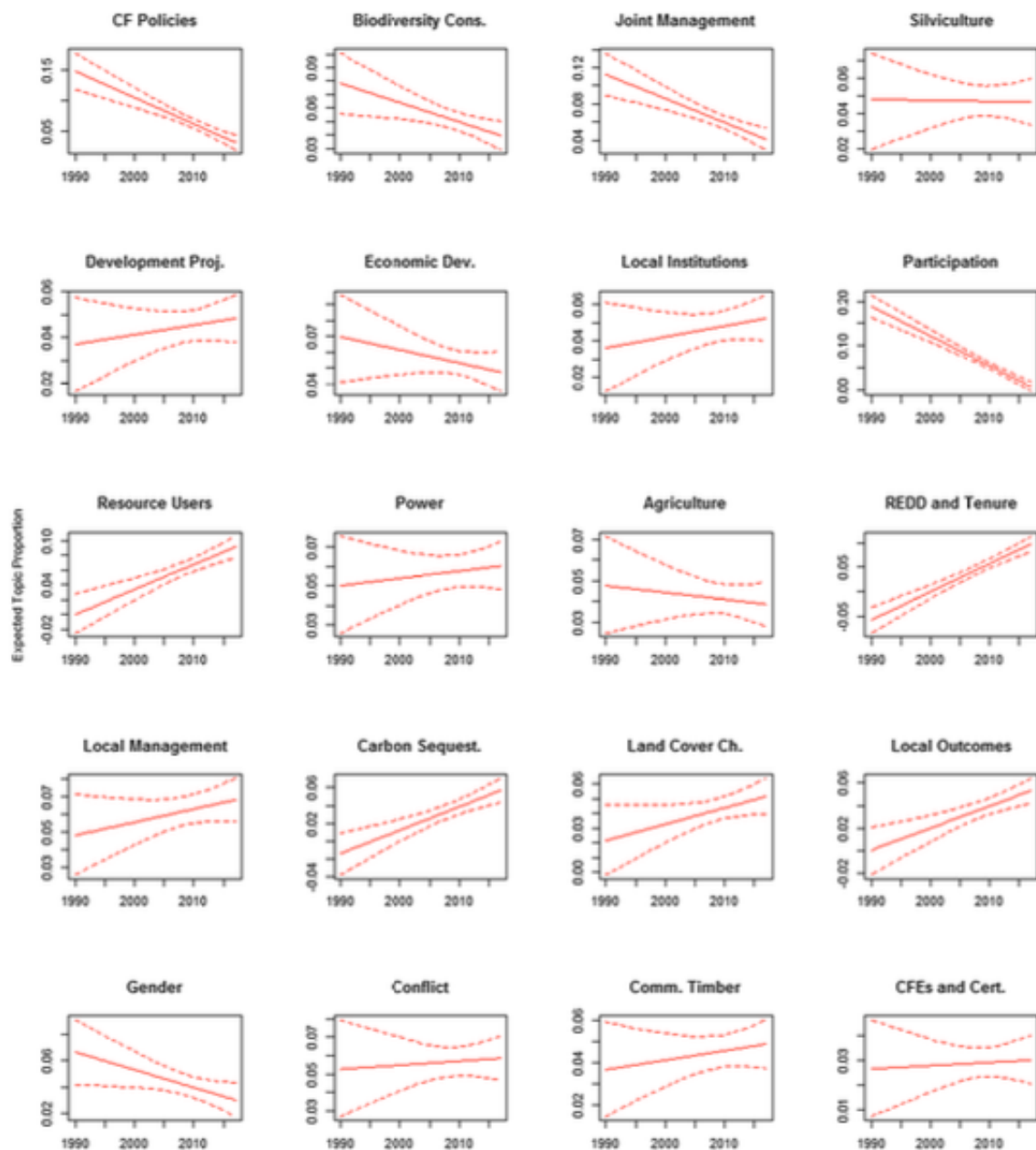


Fig. 9 Expected topic proportions for all topics from 1990 to 2017, 90% confidence intervals

The labels introduced above are meant to clarify the meanings of the topics. They are not output by the model, but instead are our interpretations based on the words that the model associates frequently and exclusively with that topic.

Motivation

Those labels, meant to enhance data visualization ...

Topic modeling

STM

Topic modeling parameters

Nr of topics: 16 to 24

Nr. of topics

20

Label

Manually assigned single or multi word label

Label selection

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Label quality evaluation

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Assessors

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Domain

Paper: Forestry

Dataset: Forestry

Problem statement

In this research note we use bibliometrics and topic modelling to display trends in the geographic foci and research topics mentioned in the abstracts of community forestry (CF)- related research papers published between 1990 and 2017. We find that studies of

CF in South Asia make up a substantial proportion of the literature, although CF research in Africa, Southeast Asia, and Latin America has also developed.

Using a structural topic model, we identify four major research areas and 20 topics latent in the text of the abstracts analyzed. The trends of topic proportions over time offer evidence of a shift in research focus from broad policy analysis to local outcomes and growing interest in carbon sequestration. Results identify the most prominent CF research topics and demonstrate the potential of topic models to analyze large amounts of scientific literature.

Corpus

Origin: Scopus and Web of Science (WoS)

Nr. of documents: 1481 (1112 after processing)

Details:

- community forestry (CF)- related research papers published between 1990 and 2017
- gathered using the terms "community forestry", "community forest management", or "community-based forestry"

Document

Abstract of community forestry (CF)- related research papers manually coded with location data (based on used data) and having publication data

Pre-processing

- removed abstracts addressing "urban" forestry and those abstracts which did not mention "communities," "decentralization," "smallholders," or "local management"
- removal punctuation and words appearing in fewer than five articles
- stemming

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  abstract = {How is community forestry (CF) research changing as CF policies  
mature around the world? In this research note we use bibliometrics and topic  
modelling to display trends in the geographic foci and research topics  
mentioned in the abstracts of CF-related research papers published between 1990  
and 2017. We find that studies of CF in South Asia make up a substantial  
proportion of the literature, although CF research in Africa, Southeast Asia,
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and Latin America has also developed. Using a structural topic model, we identify four major research areas and 20 topics latent in the text of the abstracts analyzed. The trends of topic proportions over time offer evidence of a shift in research focus from broad policy analysis to local outcomes and growing interest in carbon sequestration. Results identify the most prominent CF research topics and demonstrate the potential of topic models to analyze large amounts of scientific literature.},

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