

FIRES AND LANDSCAPE GOVERNANCE

Herry Purnomo

Asia Pacific Forestry Week, 24 February 2016, Clark, the Philippines



RESEARCH
PROGRAM ON
Forests, Trees and
Agroforestry





GARIS POLISI 3

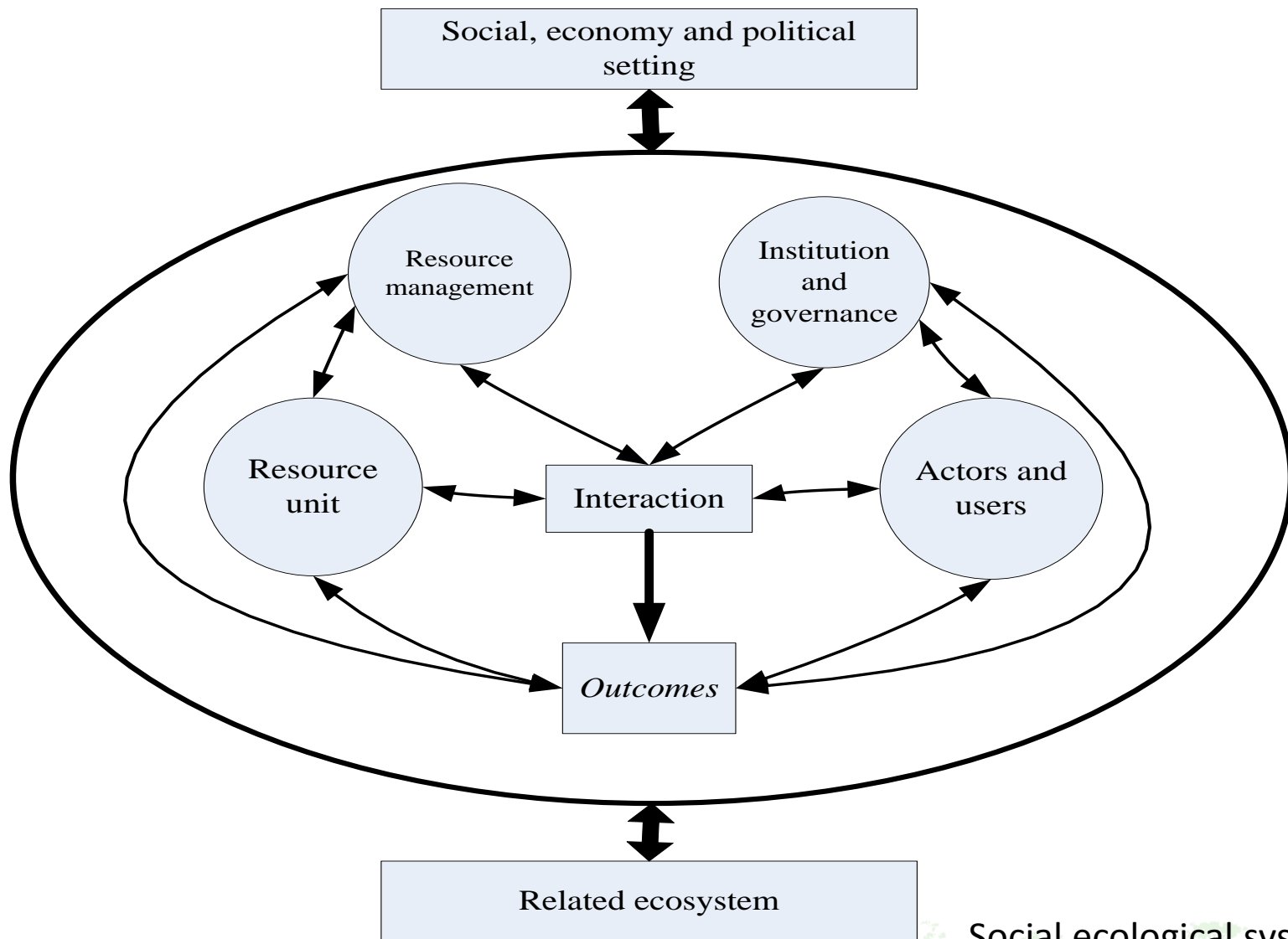
REKAM BUKTI 106

DALAM PENYELIDIKAN POLISI

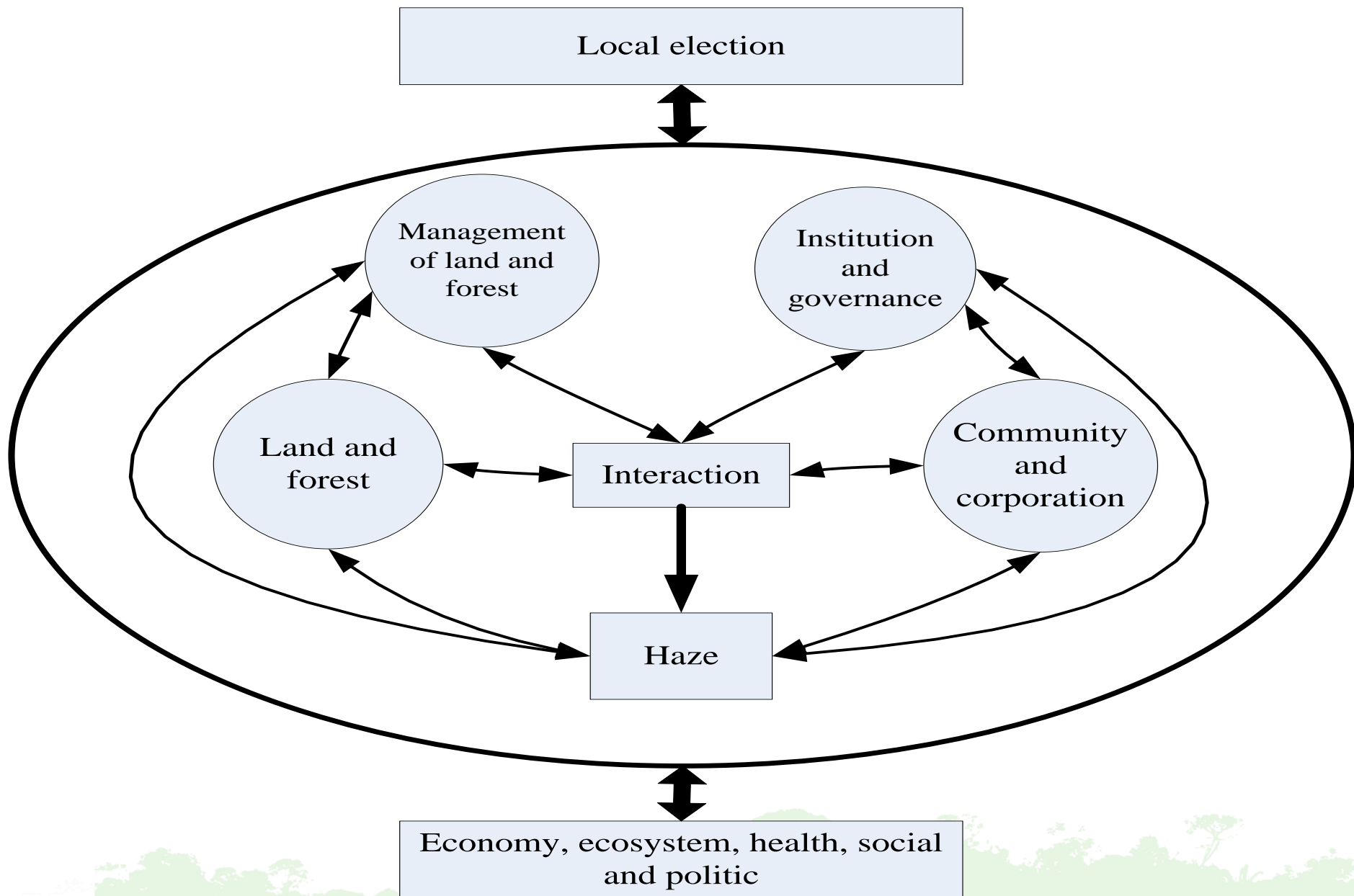
BERDASARKAN :

- 1. Bukti 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

WHY?



Social ecological system
(SES) - Ostrom, 2007



OUTLINE

- Ostrom's Social Ecological System (SES)
- Resource units and management
- Institution and Governance
- Actors
- Outcomes
- What to do next?

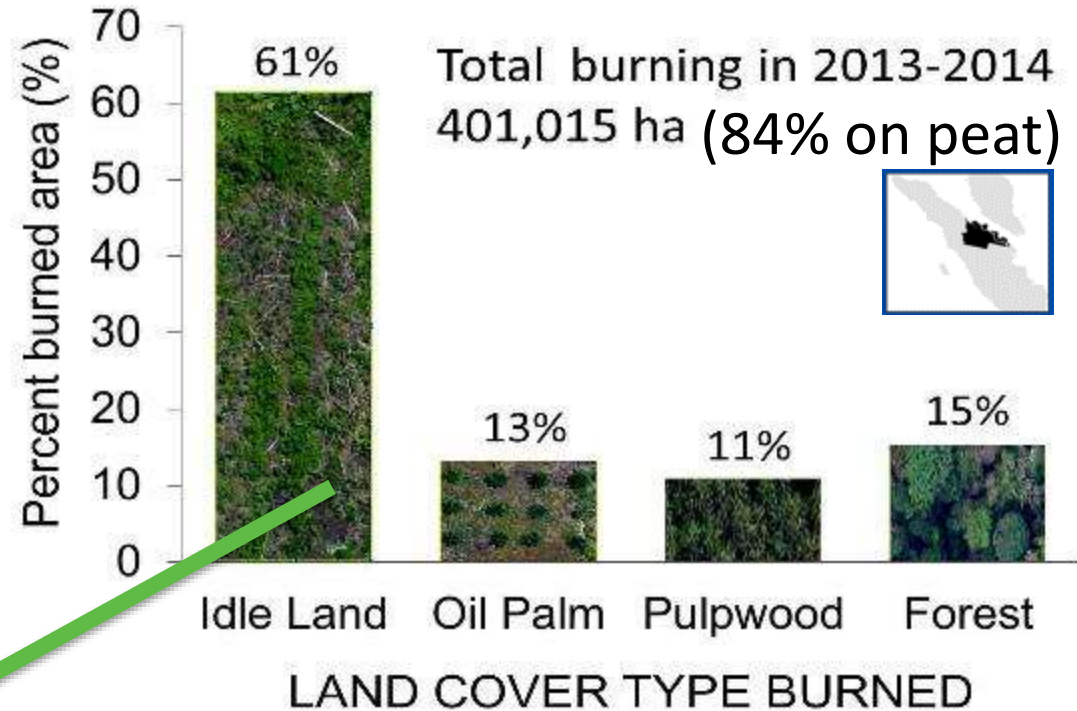


RESOURCE UNITS AND MANAGEMENT (SUMATRA AND KALIMANTAN)

Land uses			Extent		Hotspots	
			Ha	%	Number	%
Land managed by corporation (34% of land uses; 45% hotspots)	Logging concession		12,501,285	12	545	4
	Wood plantation		8,443,633	8	3,297	23
	Oil palm plantation	Other land uses (APL)	8,951,386	9	1,589	11
		Forest area	2,791,974	3	750	5
	Overlapped		2,374,943	2	260	2
Land managed by private, community and government (66% land uses and 55% hotspots)	APL (community, private and state lands)		29,876,742	29	4,963	21
	Forest area (Protected and conservation areas)		36,851,699	36	3,057	34
Total			101,791,661	100	14,459	100

Data sources: NASA, WRI, Ministry of Environment and Forestry Indonesia

FIRES TARGET IDLE DRAINED PEAT LANDS



Forest Cemetery in Riau: shrubs and wood debris: forest was cleared a few years prior by massive illegal logging

Fire is a land clearing tool to expand Oil palm agriculture in unproductive areas

Gaveau *et al.* in review

REGULATIONS

Law	Article	Content
Law 41/1999: Forestry	<ul style="list-style-type: none"> • 50: 3d 	No one shall burn forest
UU 39 /2014: Plantation	<ul style="list-style-type: none"> • 56 	(1) Every business communities Plantation prohibited to open and / or cultivate land by burning.
Law 32/2009: Protection and management of environment	<ul style="list-style-type: none"> • 69: 1.h • 69: 2 	<ul style="list-style-type: none"> • Everybody shall be prohibited from opening land by means of burning; • The provision as referred to in paragraph {1} letter h shall take into account seriously local wisdom in the respective countries.

POLITICS

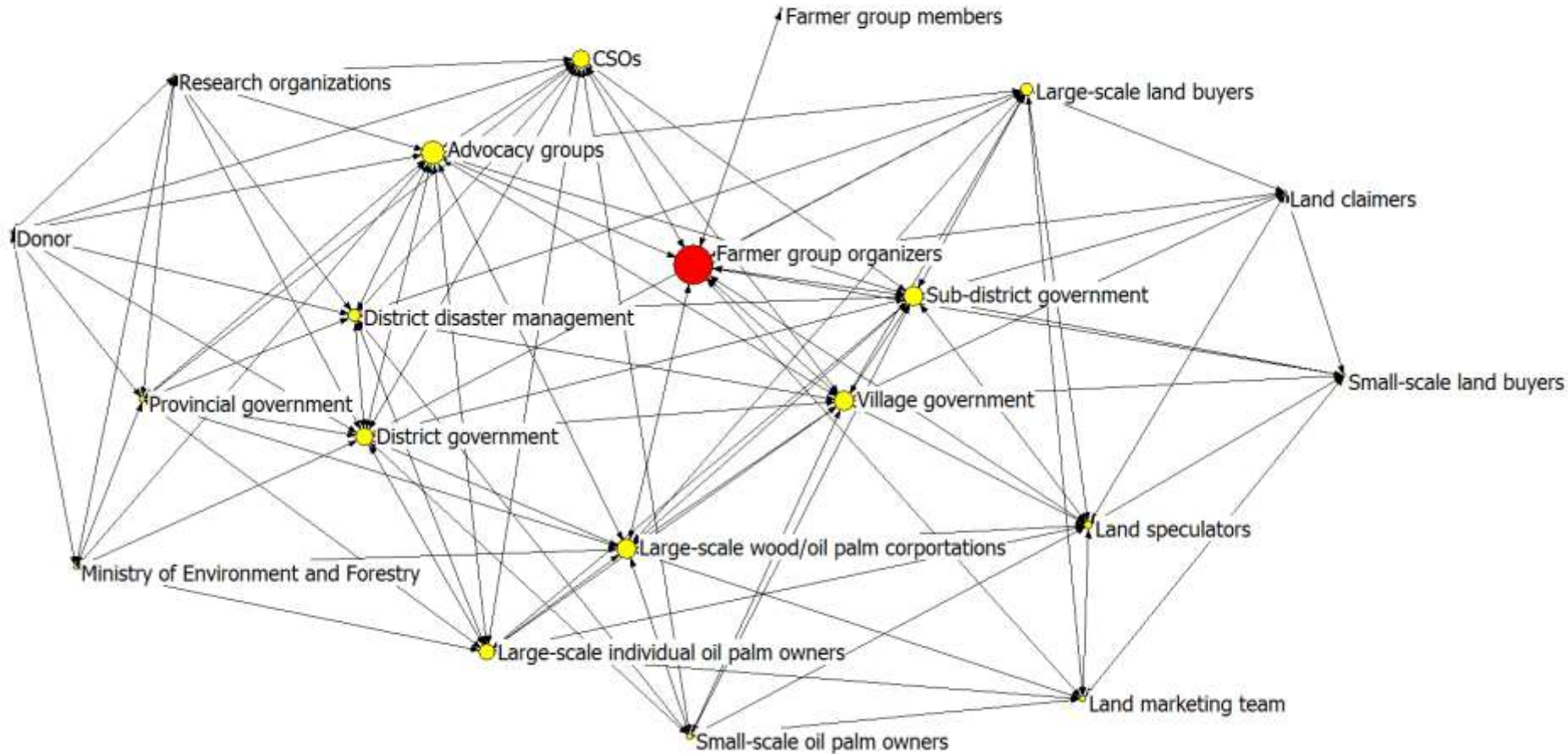
- Allowed it for small-scale
 - Central Kalimantan - Gubernatorial Regulation No 15/2010
 - Riau province - Gubernatorial Regulation No 11/2014
- Allowed to open peat swamp
 - Agriculture Ministerial Regulation No. 14//2009
 - This guideline states that peatlands can be drained and canalized to construct palm oil plantations.
- IPOPOP case



ACTORS

- Corporations
 - Palm oil plantations; Wood plantations; Other agriculture plantations
 - APhi, GAPKI, IPOP
- Mid-size plantation owners
 - Cooperatives; Large individual owners
- Smallholders
- Government
- Civil society organizations
- International communities

ILLEGAL INSTITUTION

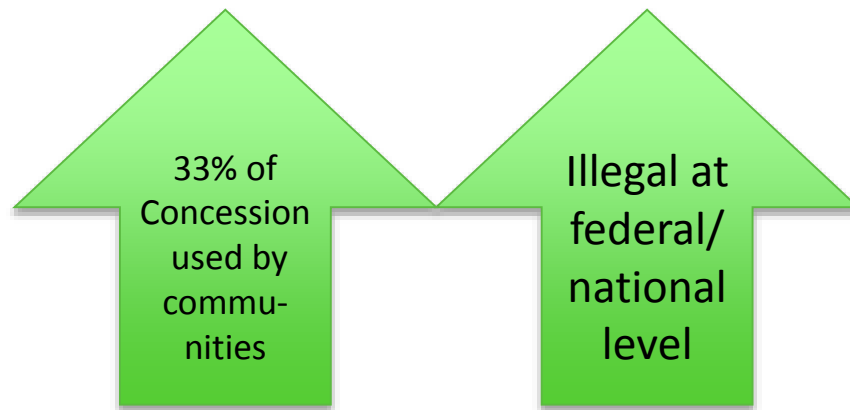


HOTSPOTS IN CONCESSIONS? NOT THAT SIMPLE.

One in-depth study of fire proponents, draft findings

Fires: by whom and where	Inside concessions	Outside concessions
By “corporations”	25%	52%
By “communities”	23%	

=100% of
361,000 ha
burnt area
studied

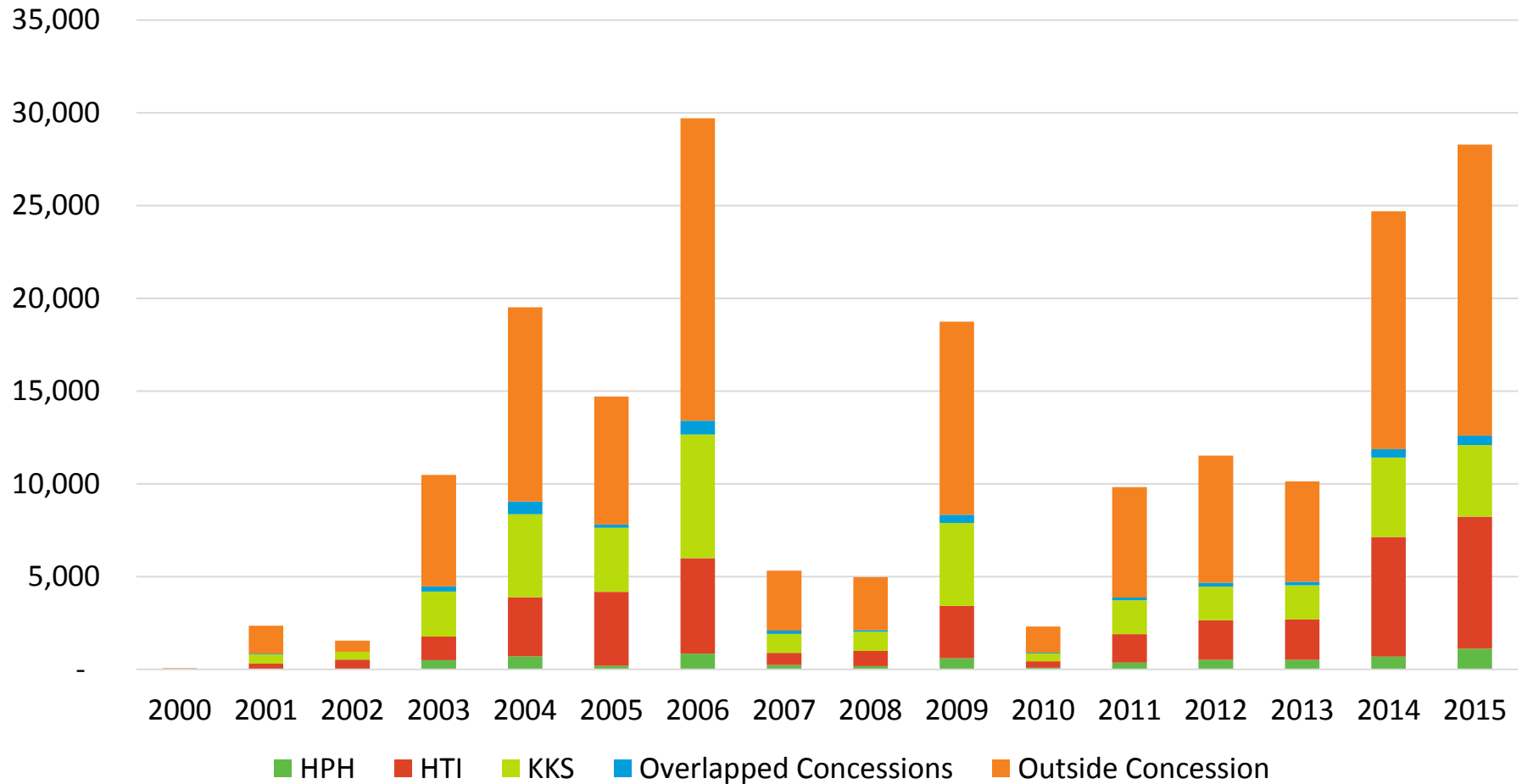


Source: Gaveau et al. (draft) Who is responsible for Indonesia's fires in concessions? Satellites can mislead: Policy makers beware.

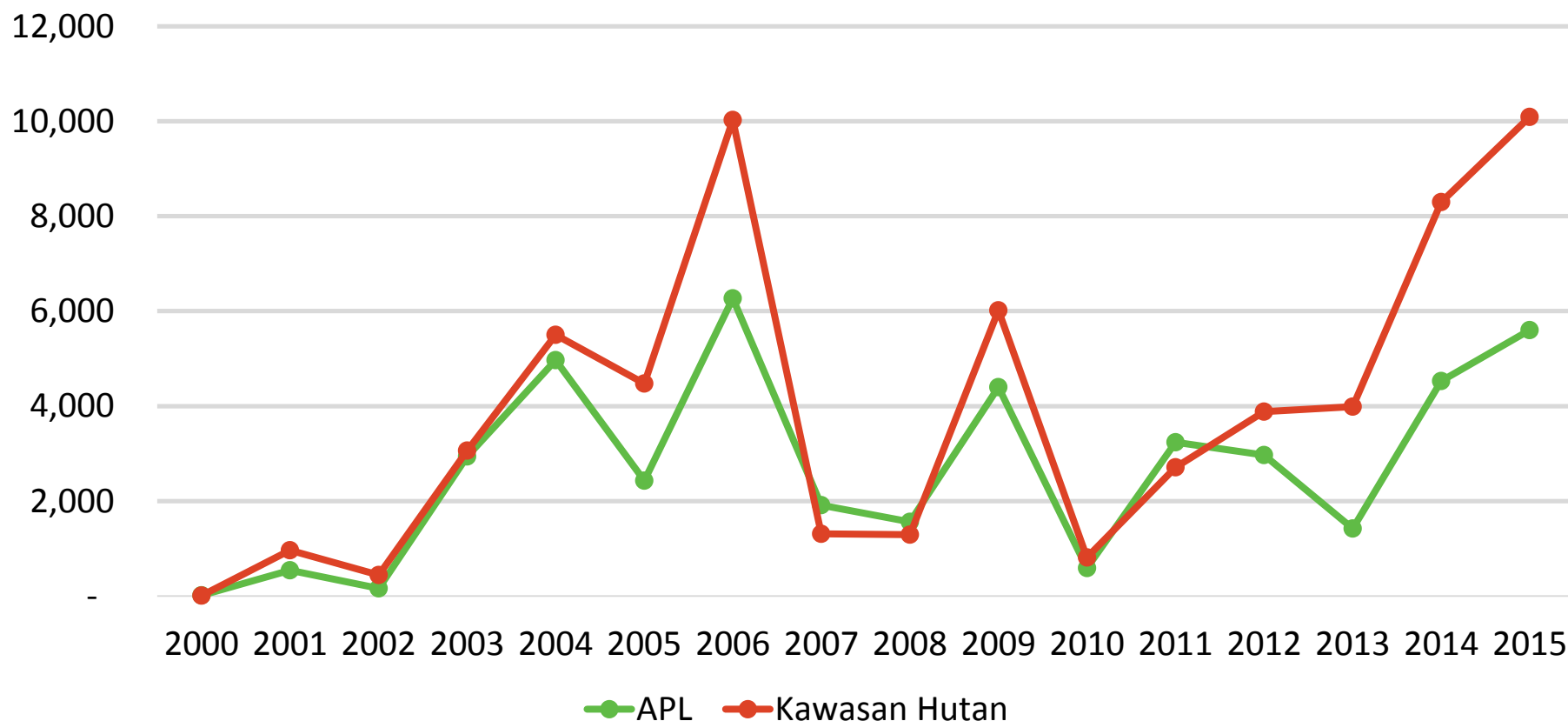
OUTCOMES = HAZE



LAND USE AND HOT SPOT OCCURRENCE IN KALIMANTAN AND SUMATRA (2001-2015)



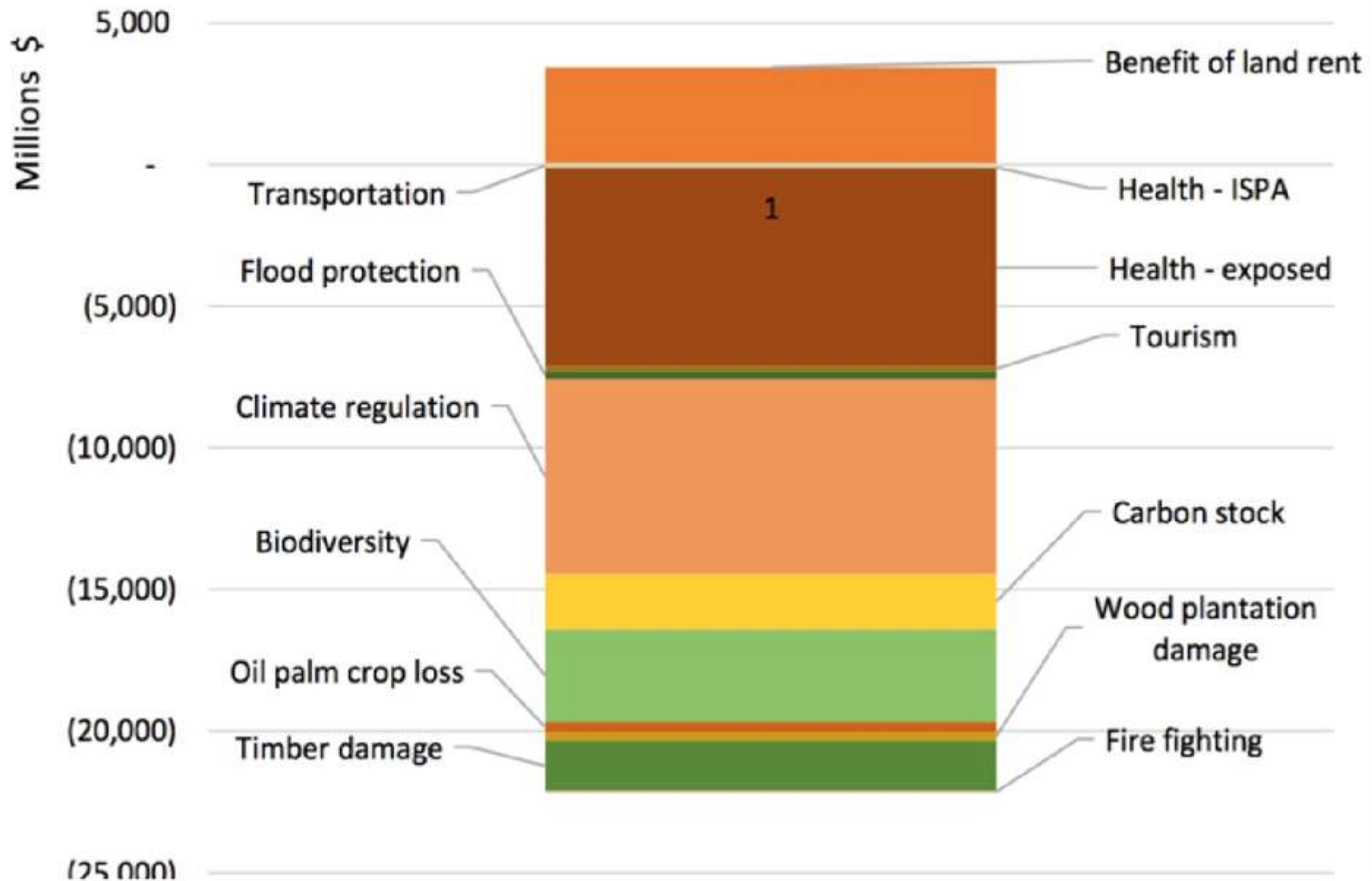
COMPARING HOT SPOTS IN COMMUNITY LAND AND AREAS MANAGED BY GOVERNMENT







COSTS AND BENEFITS



KEY MESSAGES

- Fight ‘illegal institution’
 - Law enforcement; bring KPK (Corruption Eradication Committee) to fire issues
 - Connect it to the issues of health, women and children
 - Open it to media
- Win the politics
 - Local and national level
- Influence mid-size investors and banks
- Incentivize non-fire agriculture for small-scale and sustainable value chains
- Synergize with BRG (Peatland Restoration Agency)

THANK YOU



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