

Sharing Good Practices to Reduce Open Burning



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Source: CAAC, 2020

Priority Solutions in Southeast Asia (ASEAN Solutions Report) Reaffirm this Point

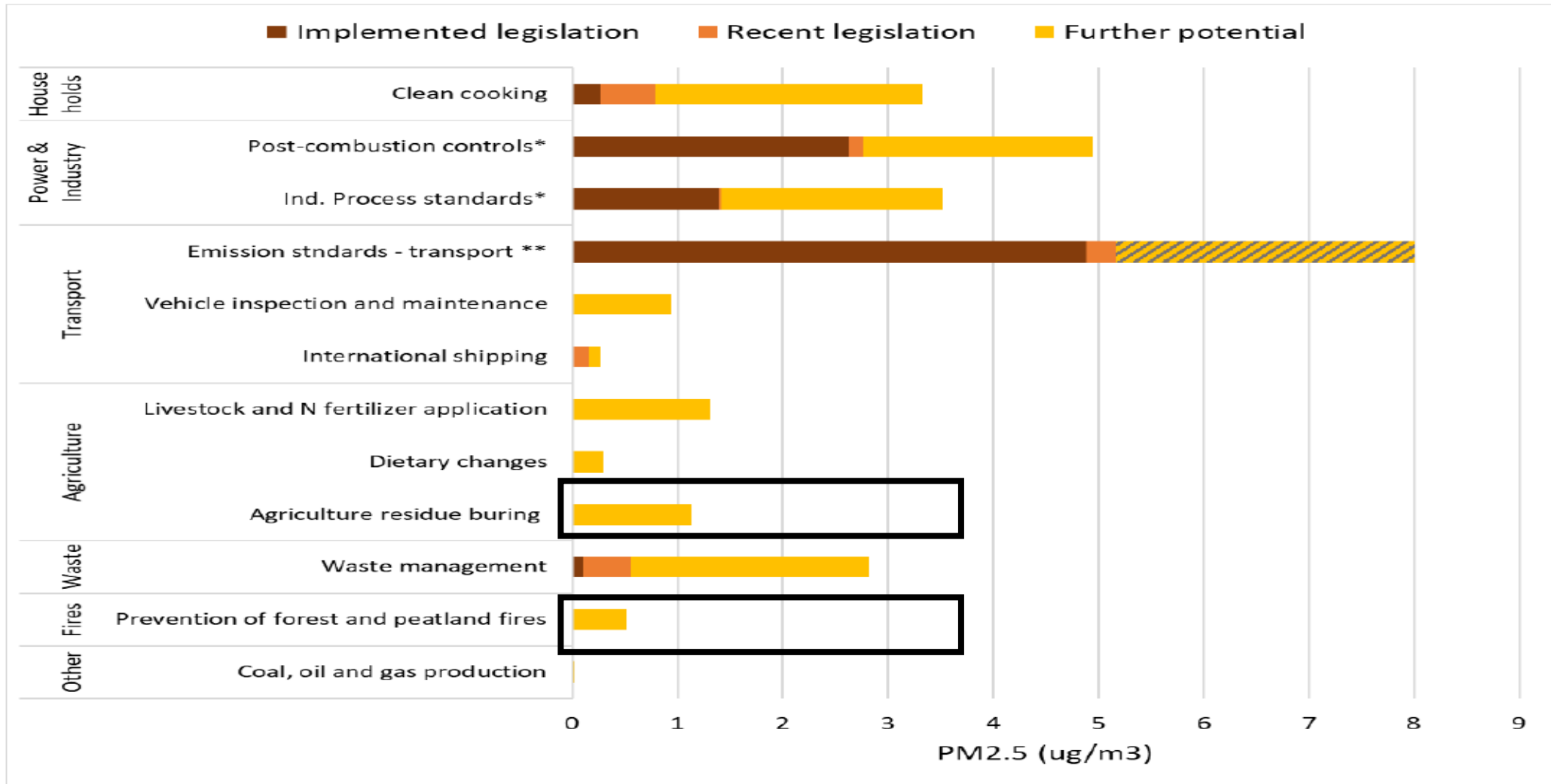



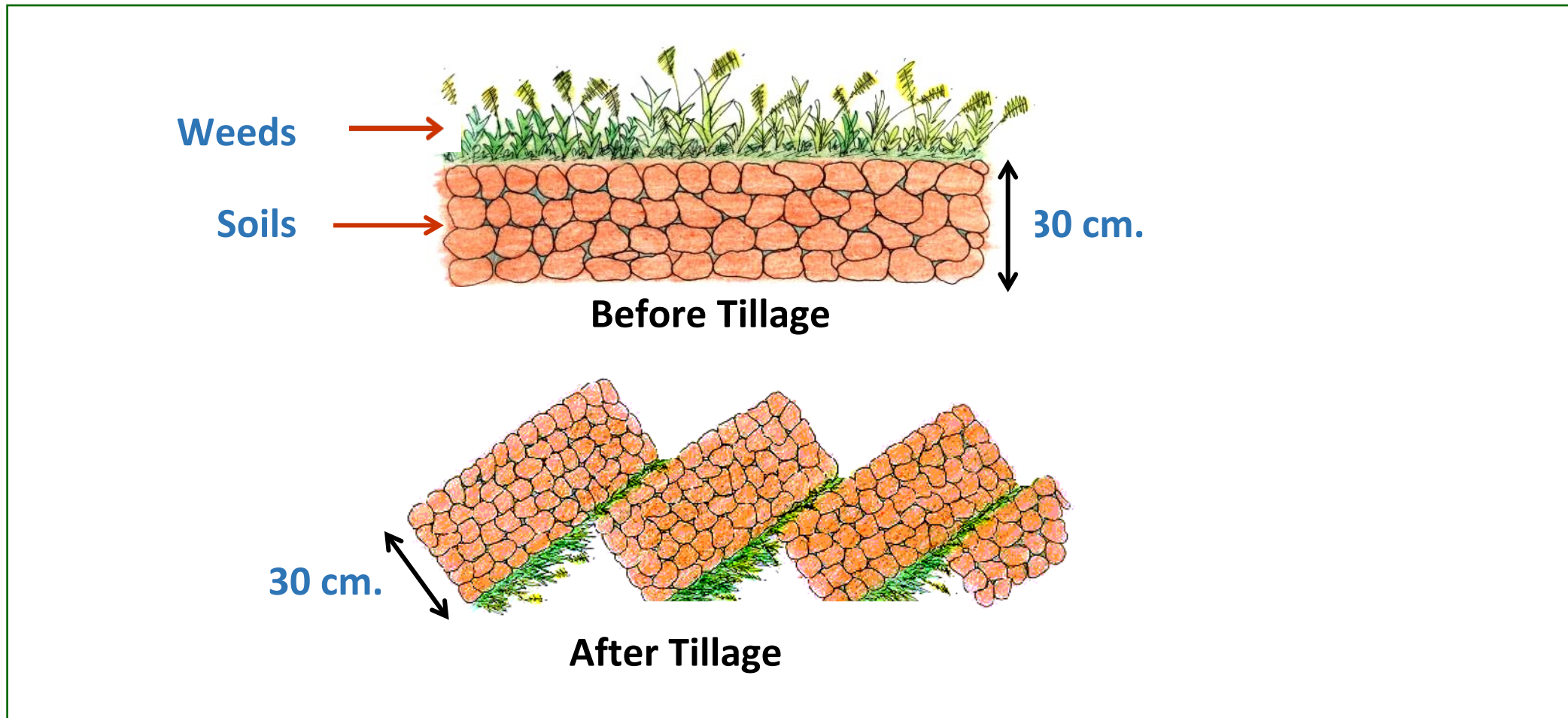
Figure 8. Impact of the priority solutions (measures with direct air quality benefits shown) on PM_{2.5} concentrations in the ASEAN region by 2030;  indicates maximum potential for either introduction of Euro VI equivalent vehicle emission standards or rapid electrification of vehicle fleet.

Many Types of Technical Solutions also Exist

- Promoting non-burning agricultural practices

Stubble ploughing in rice cultivation

Source: Supat, 2021

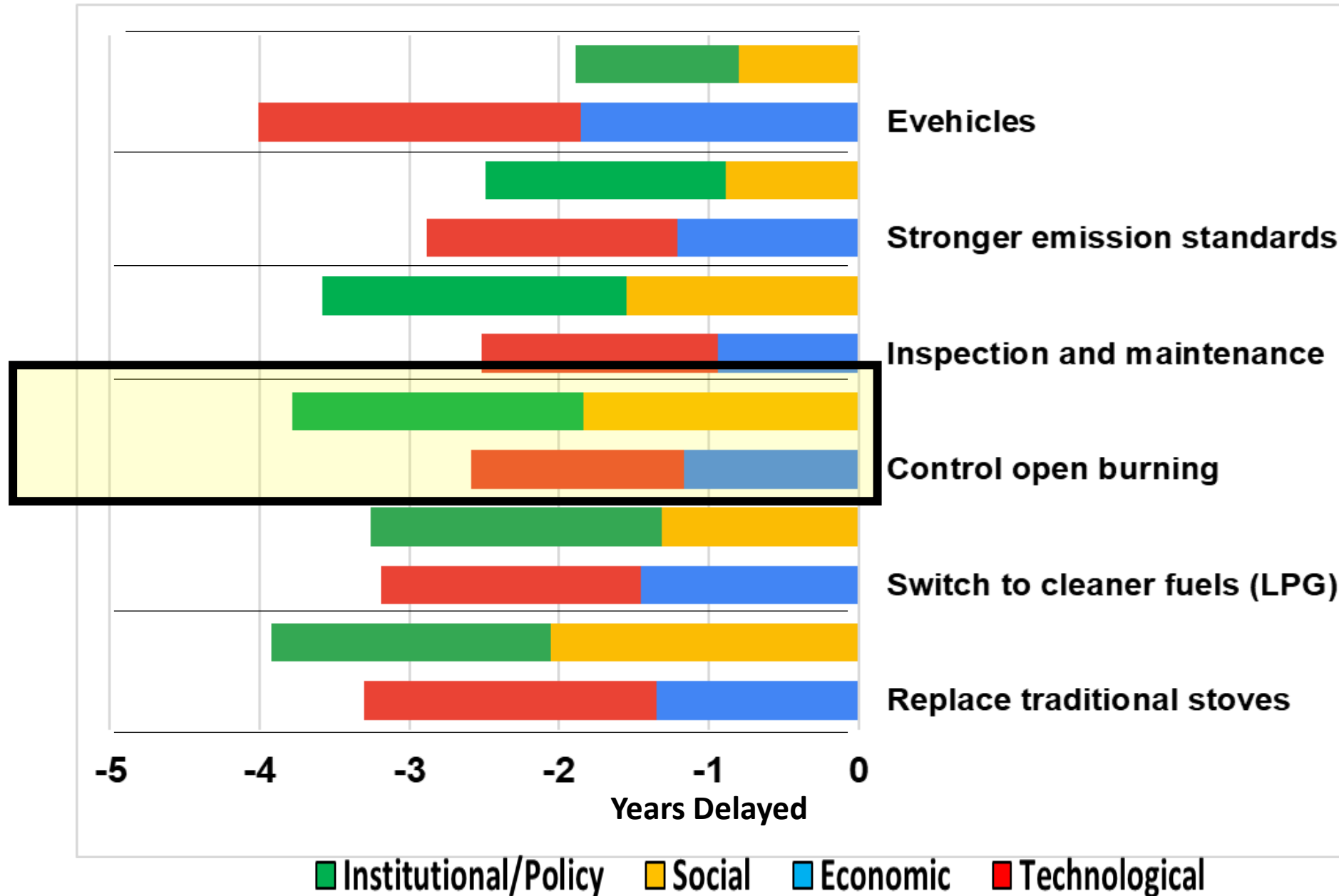


Some Solutions Focus on Using Crop Residues for Other Purposes

- Producing organic fertilizer – Organic compost
- Use as animal fodder
- Other purposes: soil mulching material in vegetable production



Social and Policy/Institutional Barriers Can Slow the Implementation of those Solutions



Source: IGES, 2021

At the national level, Thailand has introduced an Eight Point Plan that targets some of those barriers

Table 3.3: Implementing Responsibilities for Thailand's Eight Point Plan

Measure	Responsible Agencies
Prohibit burning of agriculture residue, waste, and unwanted flora during an "80 day period" (21 January – 10 April) except in areas receiving a waiver. Each province received a quota and defined area for burning during this period. Special permission from local administrators is required for burning during the period.	<ul style="list-style-type: none"> Ministry of Interior with other key agencies, i.e. Department of Provincial Administration, Department of Local Administration, Governors of Chiang Mai, Chiang Rai, Phrae, Nan, Lamphoon, Lampang, Phayao, Mae Hong Son and Tak Provinces Ministry of Transport with key agencies, i.e. Department of Highways and Department of Rural Road for control of open-burning along the highways
Intensify forest fires prevention	<ul style="list-style-type: none"> Department of National Park Wildlife and Plant Conservation and Royal Forest Department in close collaboration with the aforementioned agencies for countermeasure 1
Promote "villages free from burning"	<ul style="list-style-type: none"> Pollution Control Department (PCD) and the Department of Environmental Quality and Promotion within the Ministry of Natural Resources and Environment (MNRE)
Engage private companies to participate in haze and forest fire countermeasures through corporate social responsibility programs	<ul style="list-style-type: none"> Electricity Generation Authority of Thailand Ministry of Energy Ministry of Agriculture and Cooperatives with key agencies, i.e. Land Development Department, and Department Agricultural Extension
Raise awareness by stepping up public relations	<ul style="list-style-type: none"> Public Relations Department Ministry of Tourism and Sports Ministry of Social Development and Human Security Ministry of Education Ministry of Public Health
Establish an early warning haze incident notification system	<ul style="list-style-type: none"> Thai Meteorological Department Department of Disaster, Prevention and Mitigation in cooperation with the Royal Thai Army, Royal Thai Navy, Royal Air Force, and Border Patrol Police in case of need to putting out the large-scale open fires
Expand cooperation with neighbouring countries to mitigate trans-boundary haze	<ul style="list-style-type: none"> Ministry of Foreign Affairs Ministry of Defence in collaboration with MNRE
Establish "haze pollution prevention and solution centres" for nine provinces in Northern Thailand	<ul style="list-style-type: none"> Ministry of Interior with key agencies assigned for countermeasure 1 and Department of Disaster Prevention and Mitigation in collaboration with PCD of MNRE

At the regional level, the ASEAN Haze Agreement and Haze Free Roadmap are also aiming to create

Figure 3.1: Roadmap for a Haze Free ASEAN



Source: Pollution Control Department, Thailand, 2018

Thinking about open burning solutions in a polycentric system

- Multiple governing authorities
- Operating at different levels and scales
- Do not stand in hierarchical relationship
- Engaged in self-organisation and mutual adjustment

Source: Andresson and Ostrom, 2009;
Ostrom, 2010; Morrison, et al, 2019

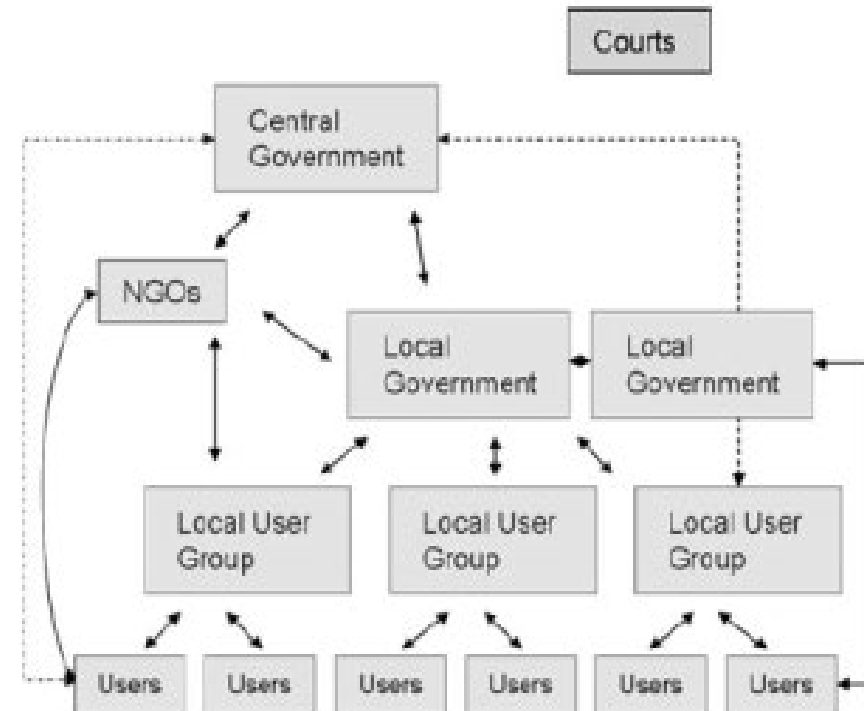
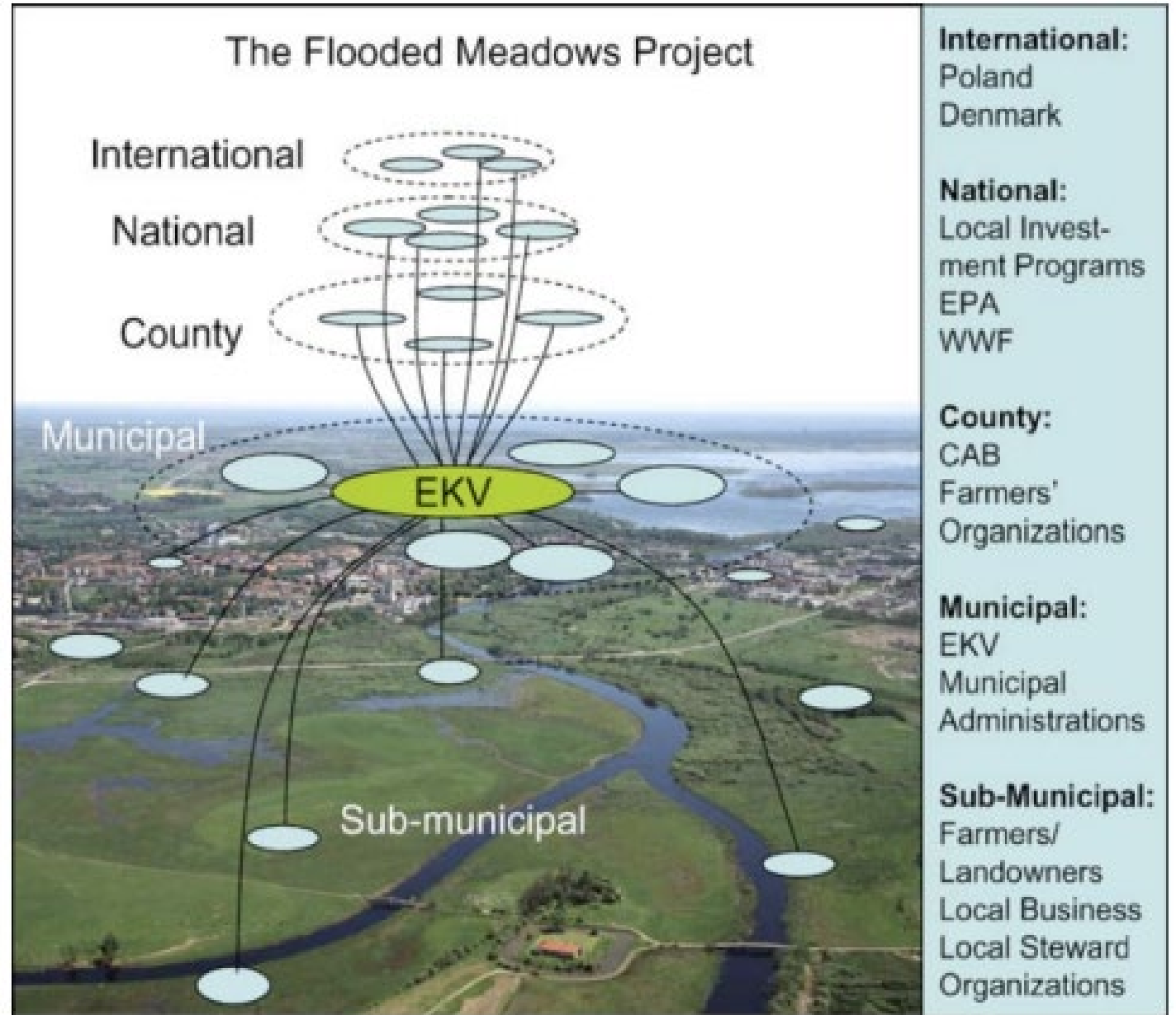


Fig. 2 The conceptual model of decentralized resource governance from a polycentric perspective

Another example of an adaptive polycentric response: the flooded meadows project

Source: Hahn et al. 2006



Key Messages

- Effective solutions are likely to require **more than new technologies or prohibitions on burning.**
- Effective solutions are likely to include a **mix or portfolio of different options with some discouraging practices** that enable burning, while others offer **alternatives to burning.**
- A good mix of solutions will help overcome some of the institutional and social barriers to implementing and spreading solutions.
- It may also be helpful to conceive of solutions as operating in polycentric governance systems.
- Such systems can promote the adaptive learning and innovation locally
- They can help **align the interests** of different governments agencies, businesses and community groups at different levels or scales.