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Organization of the
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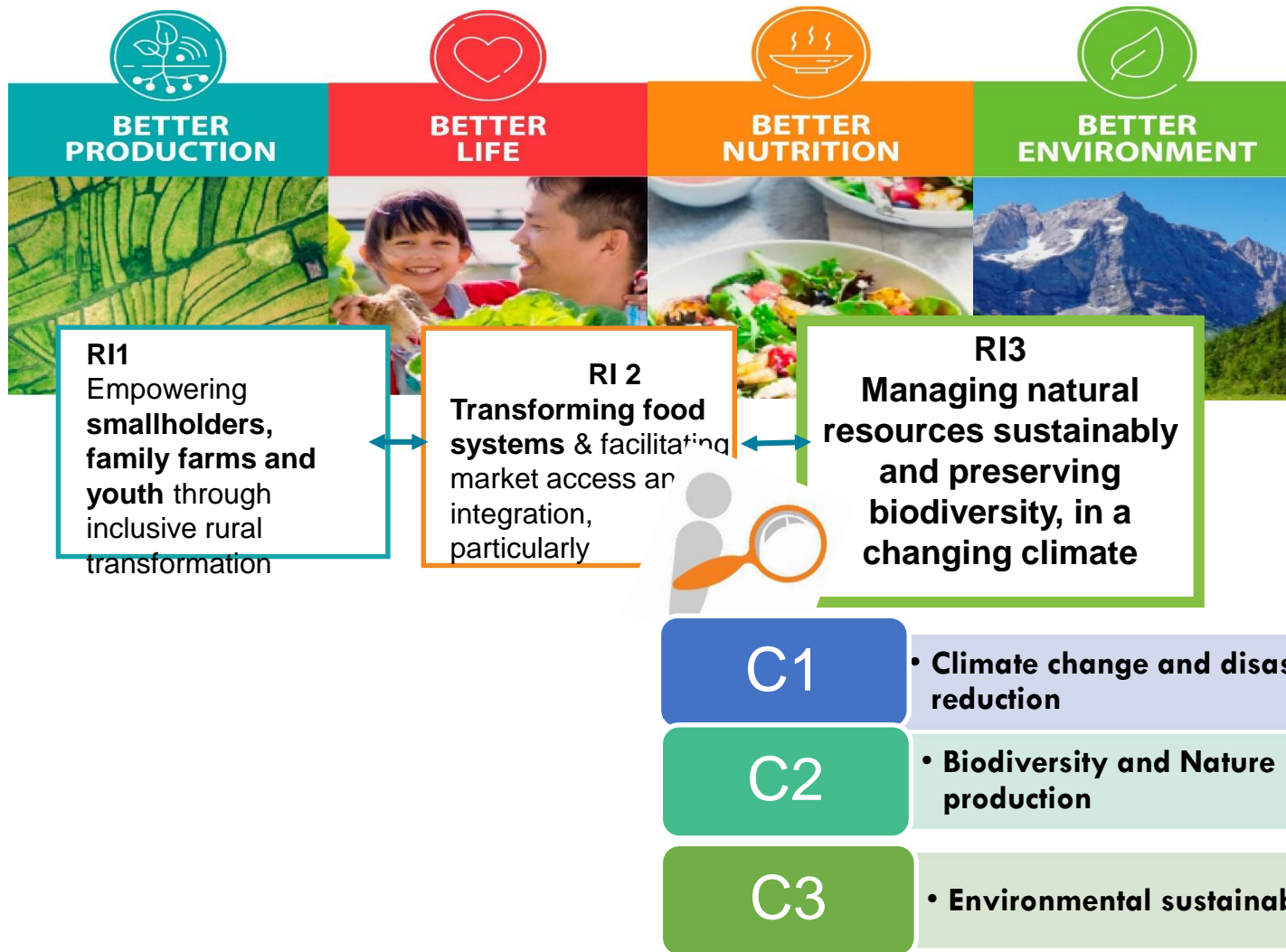


**Lifecycle Management of Pesticides and Disposal of POPs
pesticides in Central Asia countries and Türkiye
GCP/SEC/011/GFF**

**General overview of FAO work on pesticides management
and environmental sustainability in Europe and Central Asia**

Tania Santivanez, FAO
Spain 2023/IPHA Forum

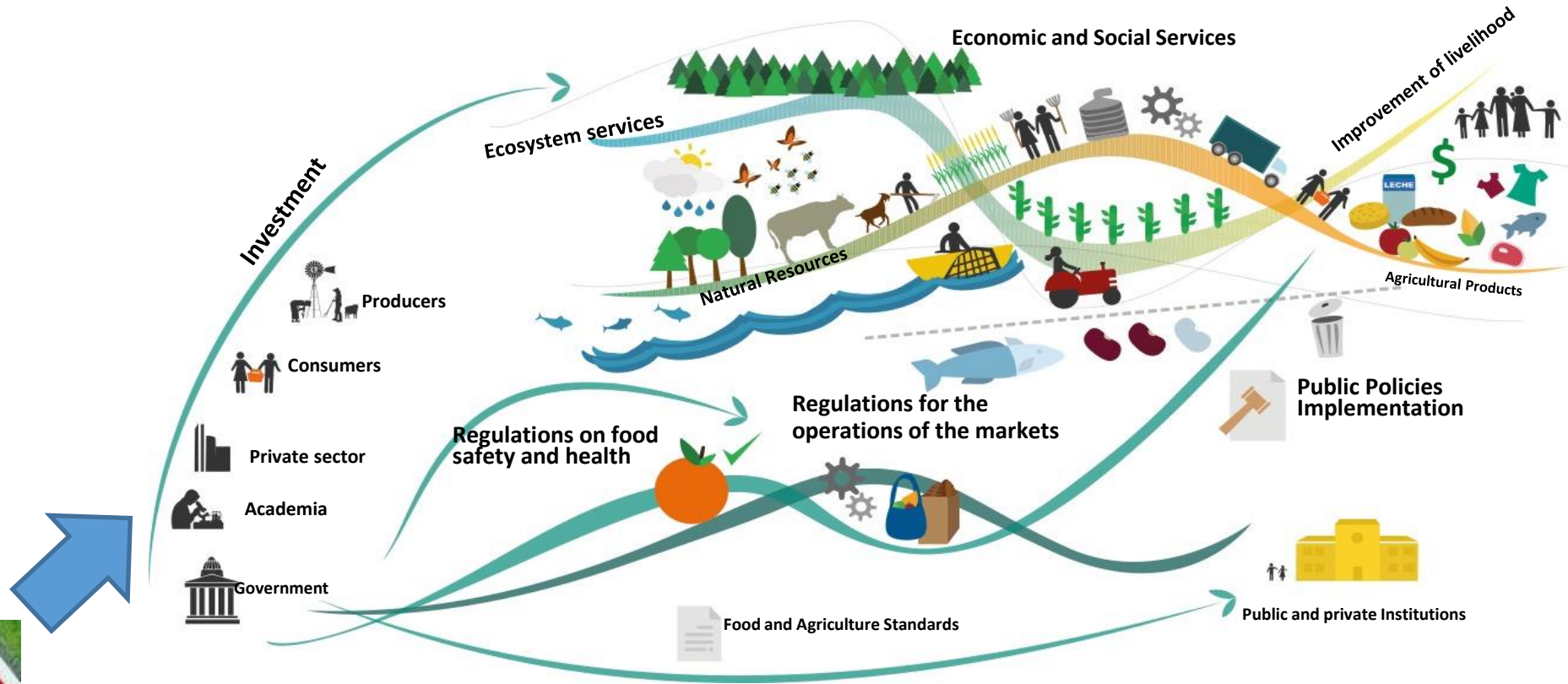
FAO Strategic Framework/ Regional Perspective



Transformation to **MORE** efficient, inclusive, resilient and sustainable, agri-food systems

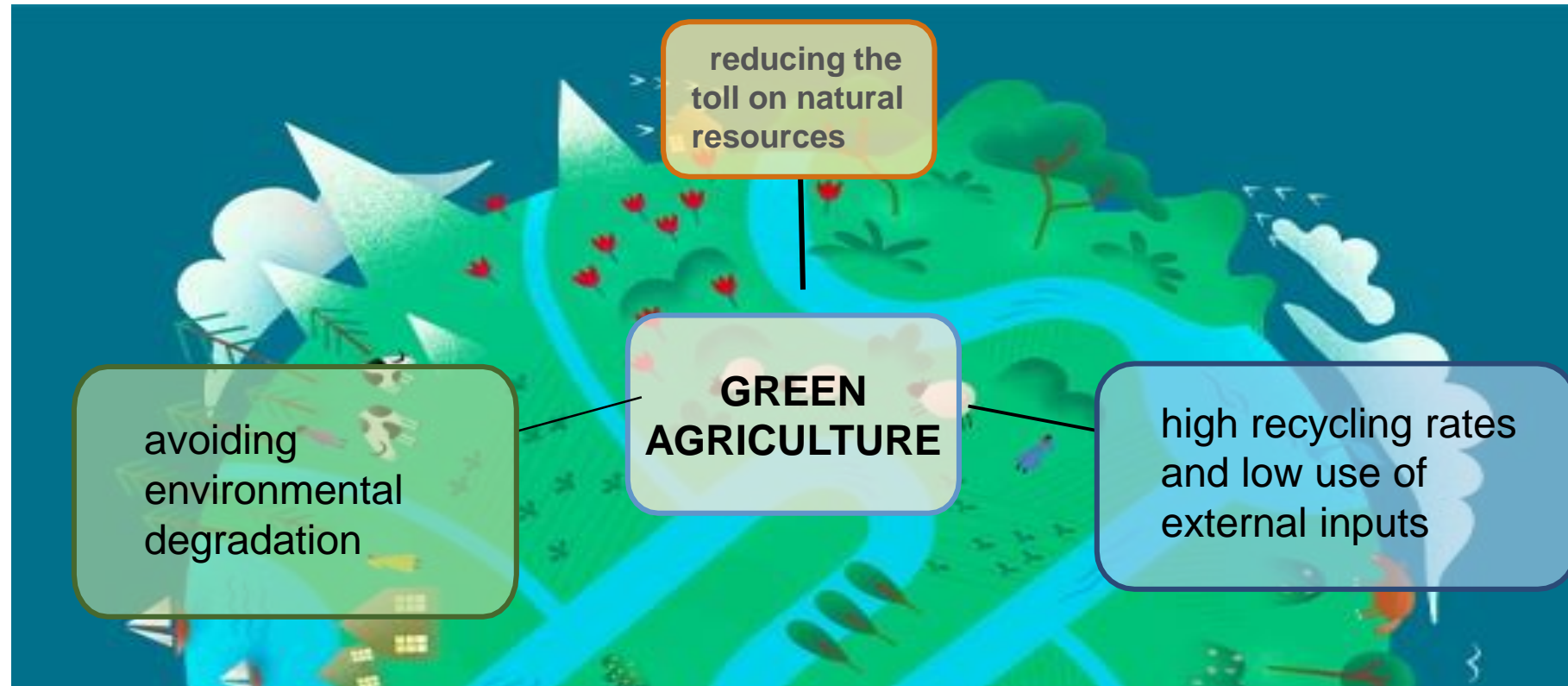
- **Pesticide and fertilizer management**
- **Agriculture plastic**
- **Soil pollution**
- **Bio economy.**

AGRI FOOD SYSTEM.... PEST AND PESTICIDES

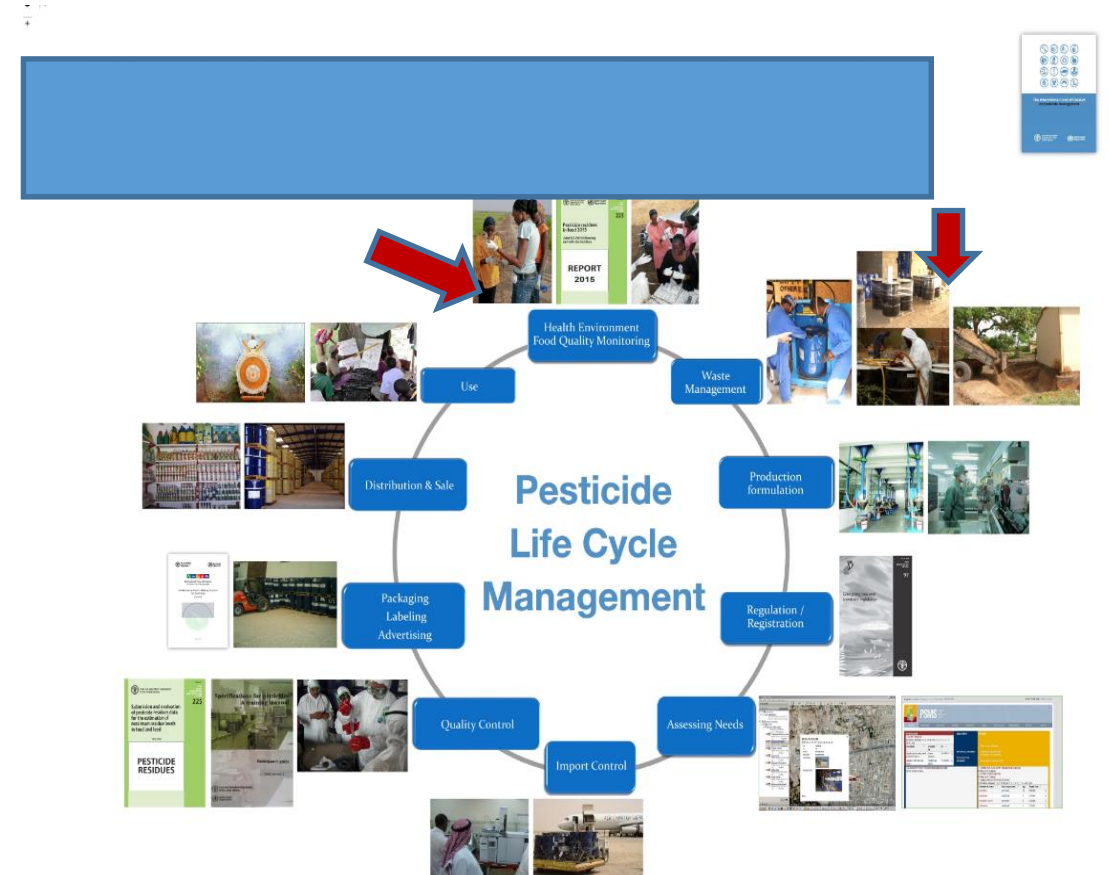
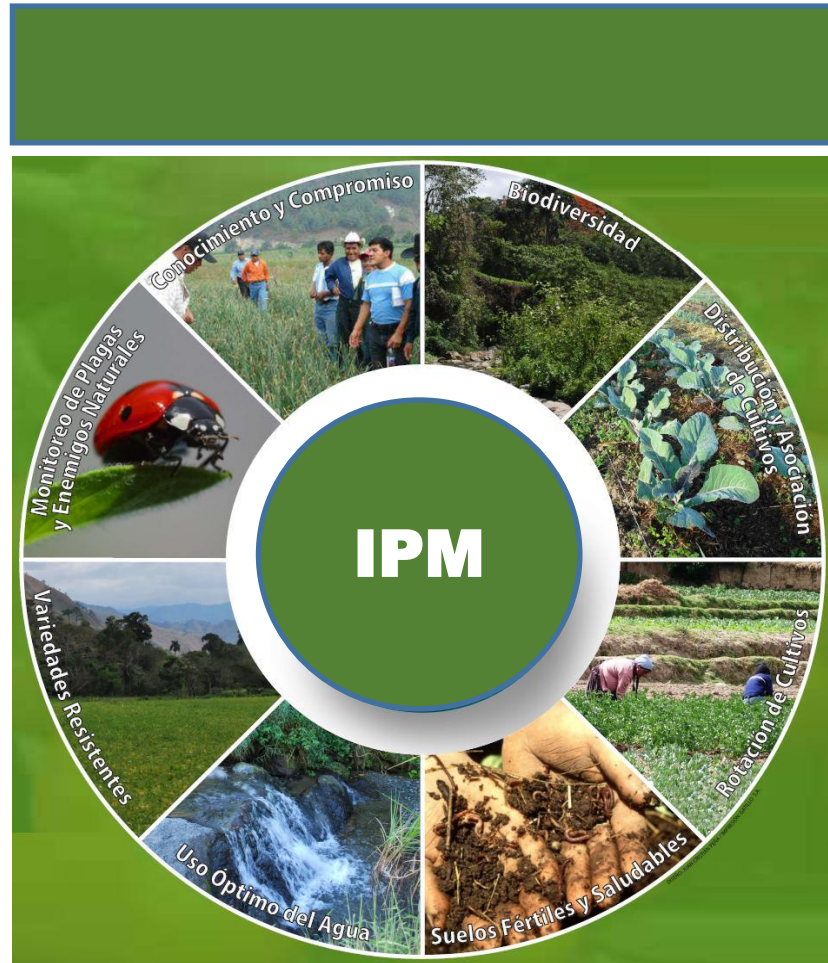


Green agriculture

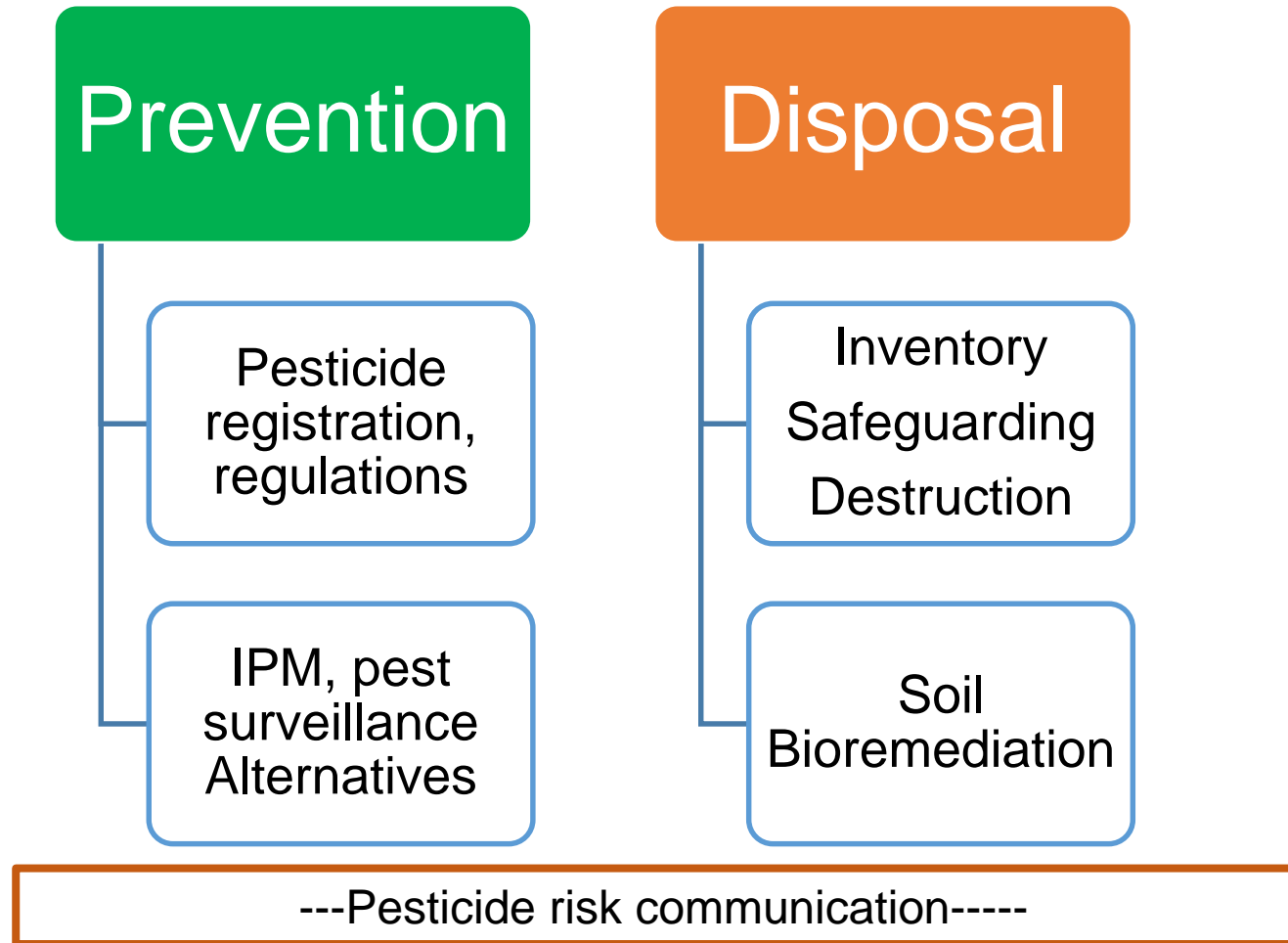
Nature Positive production



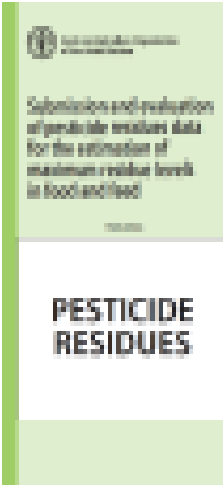
Pest and pesticide management



Obsolete pesticide management



TOOLS AND MECHANIMS



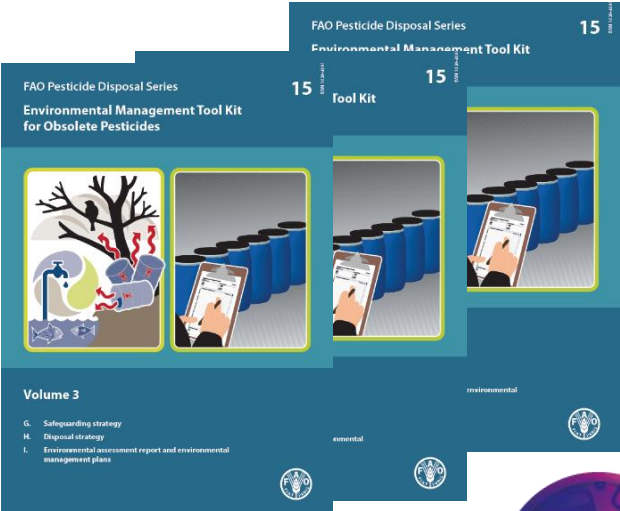
Registration Toolkit

Technical Guidelines

HHPs



Strategy for
pesticide
disposal



MAIN CHALLENGES IN PEST AND PESTICIDE MANAGEMENT IN CENTRAL ASIA AND TURKEY

- Thousands.. tons obsolete pesticides
- Land and water contamination
- Empty contaminated containers
- Obligation to international convention: Stockholm, Rotterdam, Basel, SAICM
- Lack of knowloded on HHP and its alternatives
- Gaps in national legislation of pesticides
- Gaps in pest and pesticides surveillance and monitoring
- Pesticides residues
- Pesticide poisoning (acute and chronic (long-term) health effects



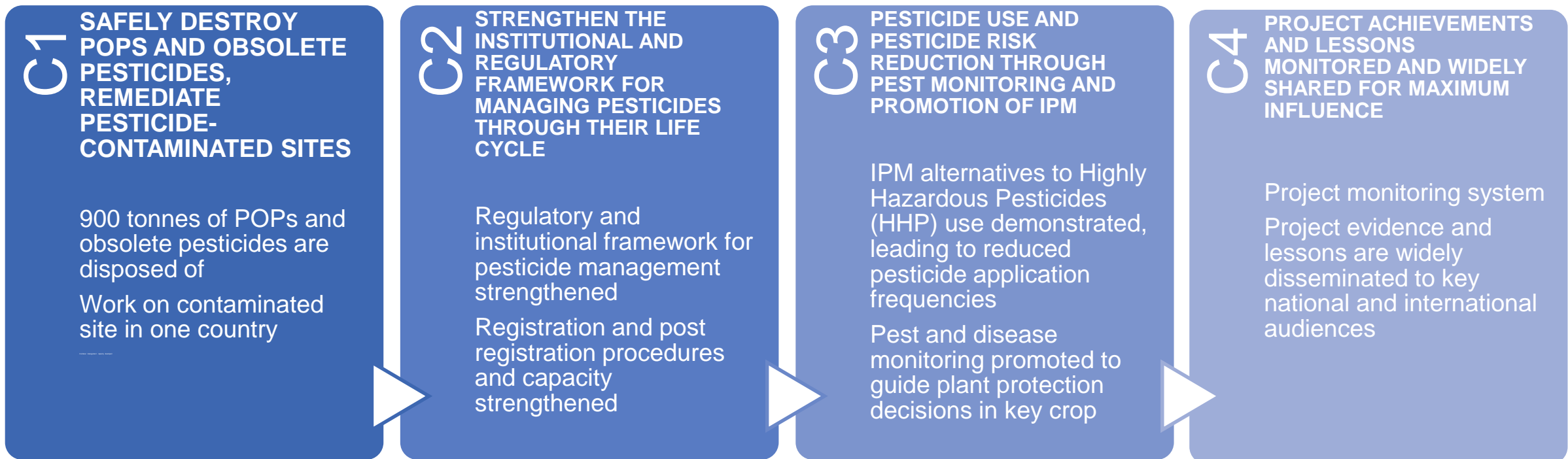
LEADING TO REDUCE PRODUCTIVITY, AFFECTING ECOSYSTEM SERVICES AND IMPACTING RURAL INCOMES, HEALTH FARMERS AND CONSUMERS..... FOOD SECURITY, CHILDREN...



MAIN OBJECTIVES

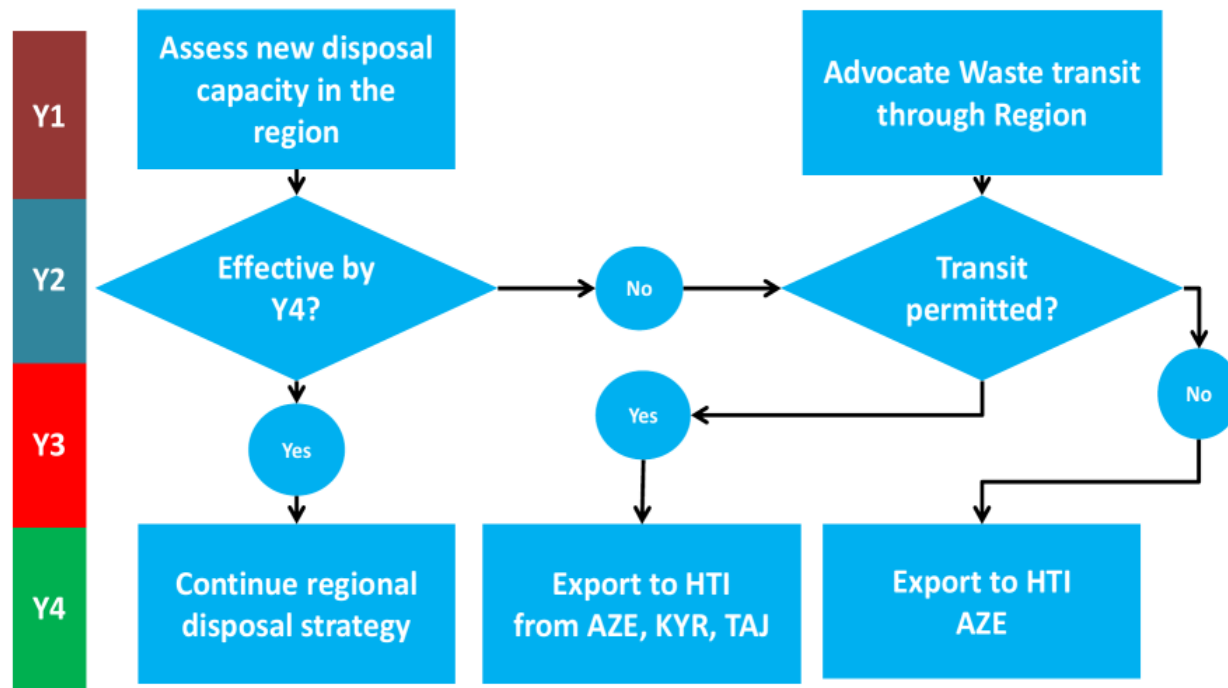
Reduce POPs releases from obsolete pesticide stockpiles and contaminated sites

Strengthen the capacity for the sound management of pesticides



Where we are with the disposal obsolete pesticides, remediate pesticide-contaminated sites?

Disposal strategy as per 2013 Project Document



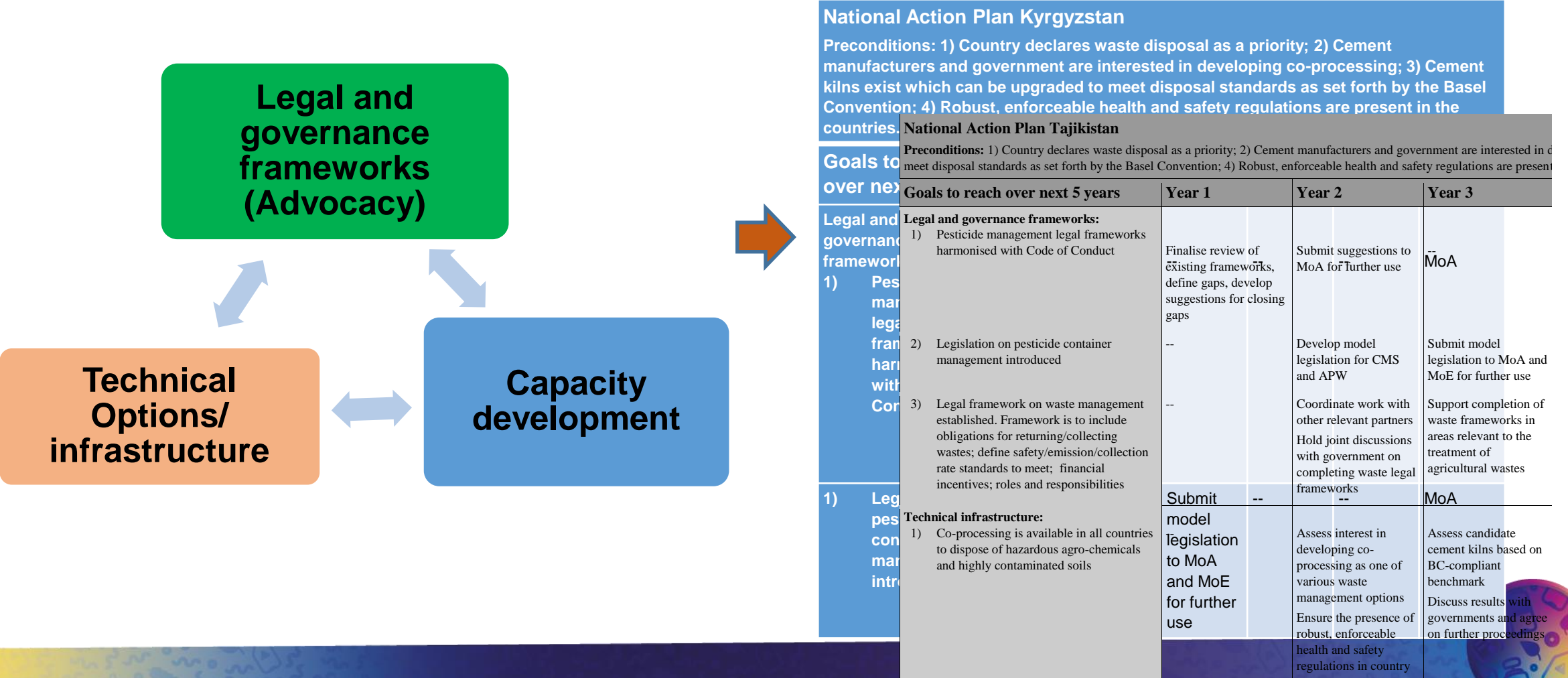
Big challenges

- *Large of volumes and mixed nature of OP to be treated= expensive*
- *Geopolitical situation and regulations to export and transit of OP across countries*
- *Absence of national facilities and capacities for disposal OP.*
- *COVID-19*



Where we are with the disposal obsolete pesticides, remediate pesticide-contaminated sites?

Sub-regional Strategy on Disposal OP for CA (2020-2025)



Where we are with the disposal obsolete pesticides, remediate pesticide-contaminated sites?

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Azerbaijan

	kg	lt	pcs
Obsolete pesticides	516 600	0	
Contaminated soil	3. 417 000		
Empty containers	945. 600/ year		3 782 400

Kyrgyzstan

Item	Quantity		
	Kg	Lt	Pcs
Obsolete pesticides	4 890 082	11 415	
Contaminated soil	157 796		
Empty containers	23.780/year		100.000-130.000

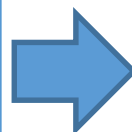
Kazakhstan

Obsolete pesticides	257 860	403	
Contaminated soil	167. 242 000		
Empty containers	700. 000/year		

Tajikistan

Approx. 1 MT of OP; about 200 mini-landfills.

Empty containers **13 250 kg/year**



Destruction OP product-IA

**For mid- to low-concentrated wastes
Management of landfills, bio- and phyto-remediation**

Safeguarding

Empty container management

Pesticide risk communication



Option for destruction OP product-IA

Azerbaijan: a national disposal option reviewed/explored without any practical result and feasibility

Kazakhstan: small high-temperature incinerator to be built by GEF-UNIDO project

Kyrgyzstan and Tajikistan: assessment ongoing by GEF-UNEP project

Turkiye: three high-temperature incinerators permitted for pesticide disposal, one also for POPs disposal.

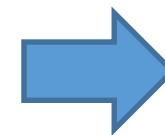
Exploring and researching the option.....according all convention, national regulation

Contaminated soil

.Azerbaijan: detailed site investigation of two former pesticide store sites

.Kazakhstan + Kyrgyzstan: Bio- and phyto-remediation trials (details in presentation by Doolotkeldieva and Nurzhanova)

.Tajikistan: Upgrade of Vakhsh landfill, excavation of mini-landfill at Village #1 planning starting to remediate second mini-landfill.



Need to have a Central Asia Working Group on Contaminated Soil.



Safeguarding

Azerbaijan: About 200 MT of polidofen and other liquid and solid obsolete pesticides being safeguarded;

Turkiye: Tender prepared for collection and disposal of obsolete and confiscated pesticides;

Kyrgyzstan: Safeguarding and centralization of obsolete pesticides as well as fencing of Kochkor landfill in planning



Empty container management

- .Baseline assessment of empty pesticide containers management systems (CMS) done in all five countries;
- .Annually generated agricultural plastic volumes range from 20 - 3'000 MT;
- .In addition, Agricultural Plastic Waste could be added. Details in presentation by Efimkin.



Where we are with the improvement of pesticides management? (C-2)

Legal framework assessments

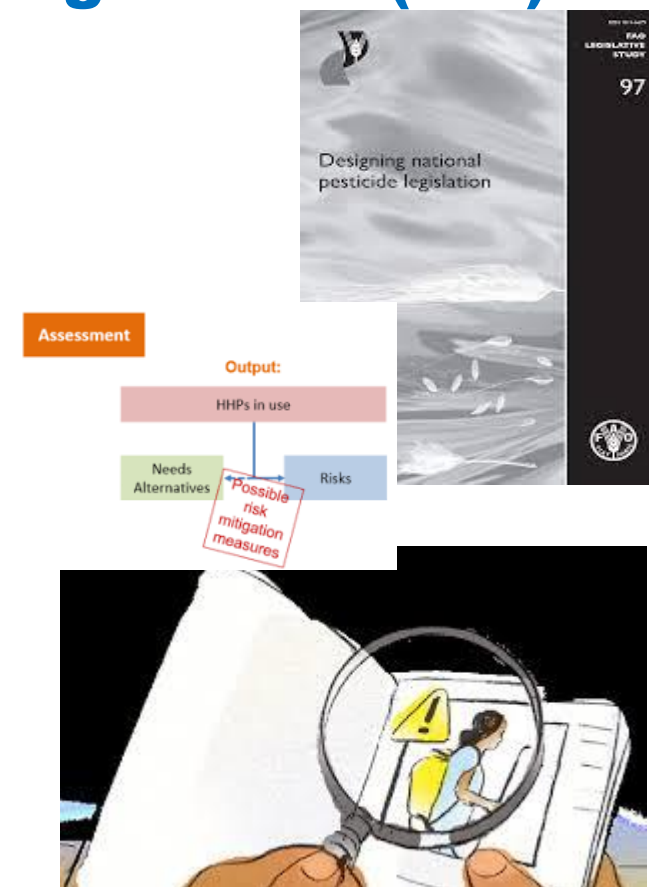
- Review of legislation on pesticides life-cycle management legislation AZE, KYG, TAJ and KAZ
- It is developing a model legislation on CMS

Strengthened registration systems and Field data on pesticide use

- *FAO pesticide registration toolkit translated into Russian;*
- *Pesticide registration system in Tajikistan assessed, key challenge identified*
- *Assessment of use of Highly Hazardous Pesticides in five project countries done*
- *Spraying practices and PPE use, with disaggregation by gender, prepared*

Development of electronic registration system in Kyrgyzstan, Azerbaijan under planning.
In Turkiye, pilot project for regular check and calibration of pesticide spraying equipment

Support for Rotterdam ratification in Tajikistan and Azerbaijan

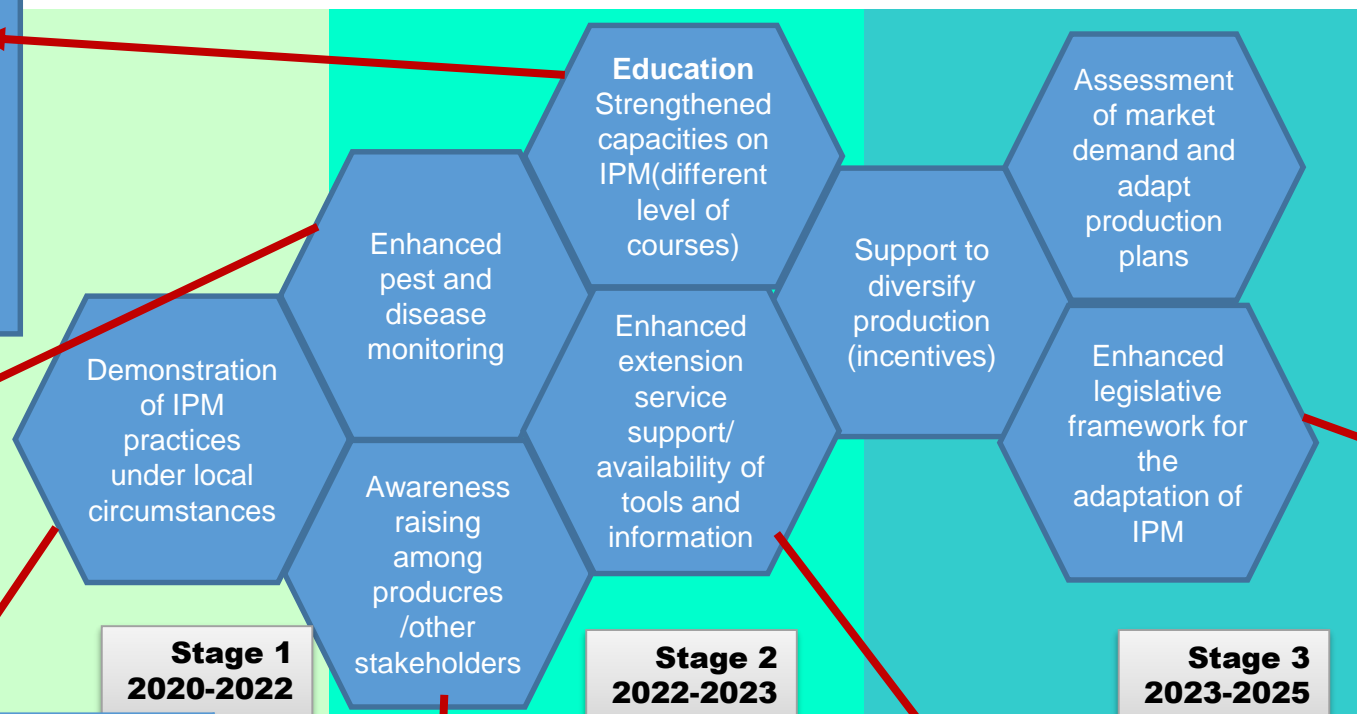


Where we are with the promotion of alternatives for HHP's (C3)

Sub-regional Strategy for promotion of IPM within the project

Türkiye: 160 farmers trained on IPM
Kyrgyzstan: 60 students trained on IPM
Azerbaijan: 15 farmers involved into IPM work
Kazakhstan: trainings will start in 2023
Tajikistan: approx. 80 farmers on IPM practices on potato production trained

Assessment of existing pest surveillance systems done in Azerbaijan, Kyrgyzstan, and Tajikistan



- Sub regional strategy developed
- Legal review developed in Azerbaijan, Kyrgyzstan, and Tajikistan
- Guideline to assess IPM practices developed
- National IPM assessment developed in AZE and KRG
- National Action plan on IPM submitted to government in KRG

Location	trial	time	crops
Türkiye	Compare Conventional-IPM and organic farming practices	2020-2023	apple
Kyrgyzstan		2020-2023	potato, corn, wheat, sugar beat, beans
Azerbaijan		2020-2021	cucumber, tomato
Kazakhstan		2023-	apple, cabbage, tomato

- Field visits in Türkiye on IPM 2021-2022 in apple orchards
- IPM course developed in KRG on selected crops
- Leaflets for farmers developed
- Participation on conferences
- Schoolgardens will be established in 2023 in Azerbaijan

Extension service support will be provided in Azerbaijan and Kyrgyzstan in 2023



Comparison trials for IPM promotion

• Results:

- Pesticides application against specific pests can be decreased up to 68%, depending on crops
- First year research trials
 - Economic analysis confirmed that IPM can generate similar income than conventional with less pesticides usage
- 2-3 year: on farm trials
 - Field visits and involvement of farmers on trials → sustainability enhancement
 - Increased interest and adaptation of IPM approach by farmers

- In Tajikistan as emergency support for **COVID-19 crisis** → Potato seed bank established to support national seed autonomy. Equipment for production of bio-pesticides procured.

Location	trial	time	crops
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Trainings, publications, awareness raising actions

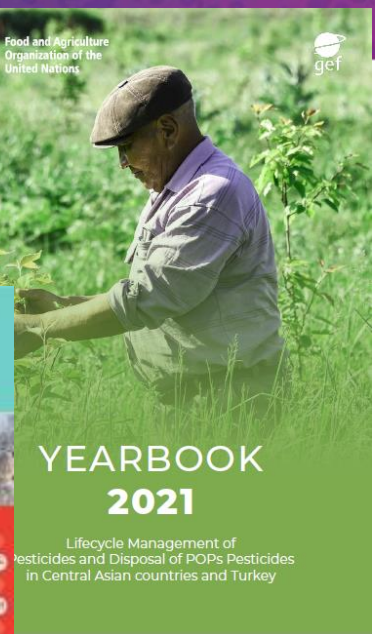
- Türkiye: 160 farmers trained on IPM
 - Marketability trainings provided for farmers on IPM and market access
 - Kyrgyzstan: 60 students trained on IPM
 - Azerbaijan: 15 farmers involved into IPM work
 - Kazakhstan: trainings will start in 2023
 - Tajikistan: approx. 80 farmers on IPM practices on potato production trained
 - Field visits in Türkiye on IPM 2021-2022 in apple orchards
- Leaflets for farmers developed on IPM
 - Awareness raising books for kids developed on IPM
 - Results introduced on conferences and articles
 - **Schoolgardens** will be established in 2023 in Azerbaijan
 - IPM course developed in KRG on selected crops for [university curricula](#)



Share data and lessons learnt (C4)

- Project website running <https://www.fao.org/in-action/pesticides-central-asia/en>
- Year book 2021, 2022
- Kids Story Book developed
- Fact-sheet pesticide risk communication: *Hidden dangers from pesticides and obsolete pesticides in Tajikistan*
- Information leaflets and hand-outs produced and distributed Webinars held:
 - POPs disposal options,
 - CMS,
 - Pest surveillance,
 - Contaminated soil remediation, HHP phase-out

Traveling/series seminars Tajikistan: 140 policy makers and farmers





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THANK YOU

POPs team