



Food and Agriculture  
Organization of the  
United Nations



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# Assessment of Highly Hazardous Pesticides in Central Asia and Türkiye

Project “Lifecycle management of pesticides and disposal of  
POPs pesticides in Central Asian Countries and Türkiye”



# Overview

- Highly Hazardous Pesticides, what are they?
- Highly Hazardous Pesticides Management
- HHP found per country
- Opportunities – Challenges
- Next steps after identification
- Prevention of HHPs
- Recommendations



*project*

**Lifecycle Management of Pesticides  
and Disposal of POPs Pesticides  
in Central Asian countries and Turkey**

*проект*

**Управление жизненным циклом пестицидов  
и ликвидации СОЗ-пестицидов  
в Центральной Азии и Турции**

*GCP/SEC/011/GEF*

# Highly Hazardous Pesticides, what are they?

*“Pesticides that are acknowledged to present particularly high levels of acute or chronic hazards to health or the environment according to internationally accepted classification systems such as WHO or GHS or their listing in relevant binding international agreements or conventions. In addition, pesticides that appear to cause severe or irreversible harm to health or the environment under conditions of use in a country may be considered to be and treated as highly hazardous.”*

*(International Code of Conduct on Pesticide Management)*



Criteria	Explanation
<b>Criteria 1</b>	Pesticide formulations that meet the criteria of classes Ia or Ib of the WHO Recommended Classification of Pesticides by Hazard.
<b>Criteria 2</b>	Pesticide active ingredients and their formulations that meet the criteria of carcinogenicity Categories 1A and 1B of the Globally Harmonized System on Classification and Labelling of Chemicals (GHS).
<b>Criteria 3</b>	Pesticide active ingredients and their formulations that meet the criteria of mutagenicity Categories 1A and 1B of the Globally Harmonized System on Classification and Labelling of Chemicals (GHS).
<b>Criteria 4</b>	Pesticide active ingredients and their formulations that meet the criteria of reproductive toxicity Categories 1A and 1B of the Globally Harmonized System on Classification and Labelling of Chemicals (GHS).
<b>Criteria 5</b>	Pesticide active ingredients listed by the Stockholm Convention in its Annexes A and B, and those meeting all the criteria in paragraph 1 of Annex D of the Convention.
<b>Criteria 6</b>	Pesticide active ingredients and formulations listed by the Rotterdam Convention in its Annex III.
<b>Criteria 7</b>	Pesticides listed under the Montreal Protocol.
<b>Criteria 8</b>	Pesticide active ingredients and formulations that have shown a high incidence of severe or irreversible adverse effects on human health or the environment.



# Highly Hazardous Pesticides Management

Identification  
of HHPs

Assessment  
of risks and  
needs

Mitigation of  
risks





# Identification Toolkit

	A	B	C	D	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE									
1	HHP Identification (one a.i.)																														
2																															
3	A. Product																														
	N°. Product name	Active ingredient (a.i.)	a.i. conc. (g/L or " )	Database toxicity data				B2. GHS carcinogen Category 1A or 1B	B3. GHS mutagen Category 1A or 1B	B4. GHS reproductive toxicant Category 1A or 1B	B5. Stockholm Convention						B6. Rotterdam Convention	B7. Montreal Protocol	B8. High incidence of adverse effects	Notes											
4											Persistence						Bioaccumulation														
5											Annex A or B						Annex D						Source pesticide								
6				Dermal LD <sub>50</sub> a.i. (database)	Source database	Class formulation - oral (calculated database)	Class formulation - dermal (calculated database)																								
7	Single active ingredient (type part of ai name, then select from drop)			mg/kg				(yes: Source/no)	(yes: Source/no)	(yes: Source/no)	(no or select)	water (days)	DT <sub>50</sub> -soil (days)	sediment (days)	BCF (aquatic)	BAF (aquatic)	log K <sub>ow</sub> (=			(no or select)	(no or select)	(yes/no)									
8	alfacipermetrina	alpha-cypermethrin	60	90		III	II	No	Yes: IARC	No	No	60	350	850	20	20	45			No	No	Yes									
9						-	-																								
10						-	-																								
11						-	-																								
12						-	-																								
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26						-	-																								
27						-	-																								

One A.I. (entry)

Two A.I.s (entry)

Three A.I.s (entry)

One A.I (summary)

Two A.I.s (summary)

Three A.I.s (summary)

Listo

70 %

	A	B	C	D	I	J	K	L	M	N	O	P	Q	R	
1	HHP Identification (one a.i.)		WRITE PROTECTED SHEET												
2															
3	A. Product				Summary	B. HHP criteria									
	Nº.	Product name	Active ingredient (a.i.)	a.i. conc. (g/L or g/kg)	Classifies as HHP	B1. WHO class	B2. GHS carcinogen Category 1A or 1B	B3. GHS mutagen Category 1A or 1B	B4. GHS reproductive toxicant Category 1A or 1B	B5. Stockholm Convention	B5. Stockholm Convention Annex D	B6. Rotterdam Convention	B7. Montreal Protocol	B8. High incidence of adverse effects	Notes
4	Single active ingredients														
5															
6		alfacipermetrina	alpha-cypermethrin	60	Yes	No	No	Yes: IARC	No	No	Possibly	No	No	Yes	-
7															
8															
9															
10															
11															
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17															
18															
19															
20															
	One A.I. (entry)		Two A.I.s (entry)		Three A.I.s (entry)		One A.I. (summary)		Two A.I.s (summary)		Three A.I.s (summary) ...				

# Results by Countries

(number of active ingredients classified as HHPs, number of pesticides formulations based on these HHPs is larger)



Source: Modified from PaintMaps.com, 2018



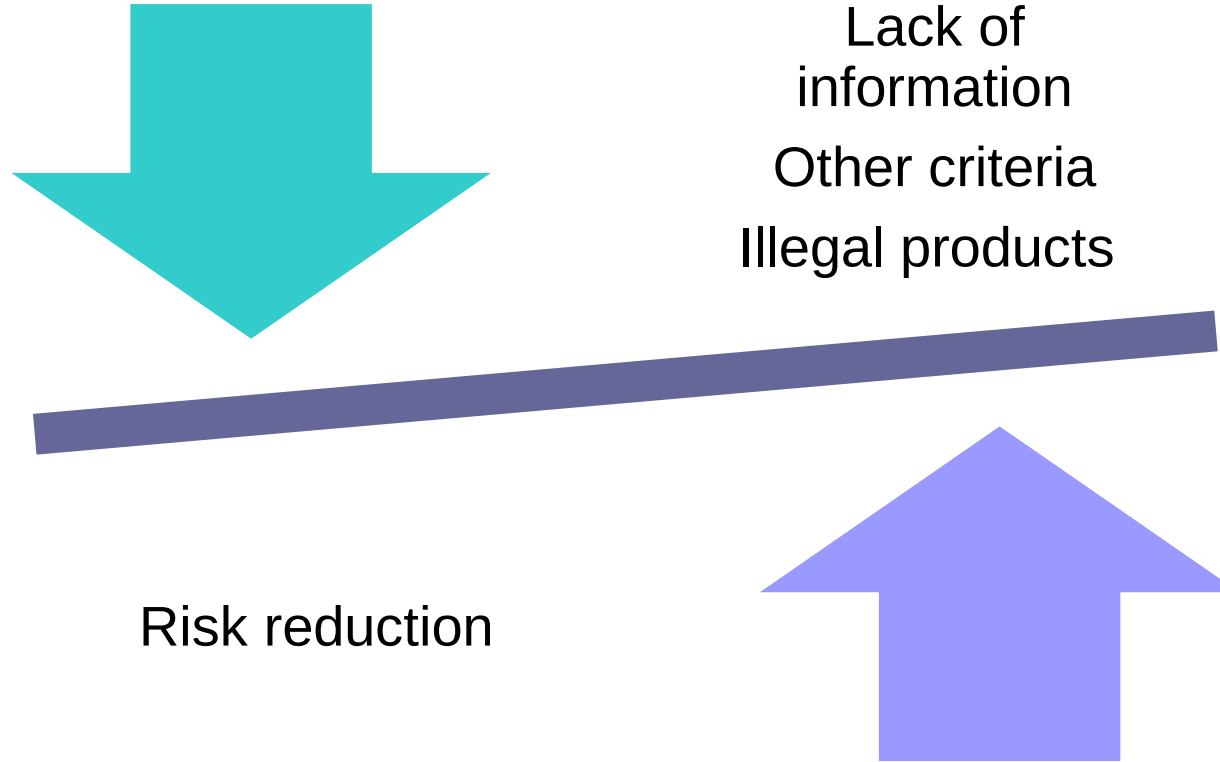


## Results by Countries

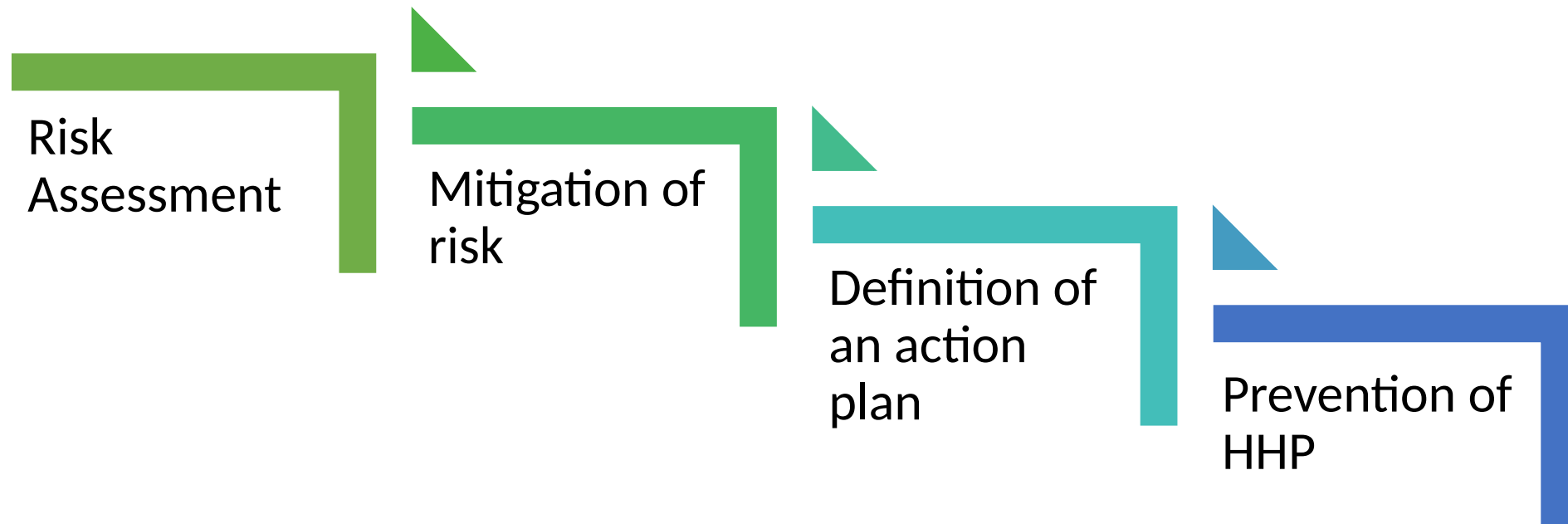
Azerbaijan	28	<b>Criteria 4 - reproductive toxicity</b>	Benomyl (3,4,6) Carbendazim (3,4) Endosulfan (5,6) Propineb (3,4)
Kazakhstan	22		Carbendazim, Propineb (3,4) Benomyl (3,4,6) Nitrophenolate mixture (2,4)
Türkiye	22		Alpha cypermethrin (4) Thiram (6) Linuron (4)
Kyrgyzstan	20		Benomyl (3,4,6) Carbendazim (3,4) Propineb (3,4)
Tajikistan	15		Carbendazin (3,4) Propineb (3,4)



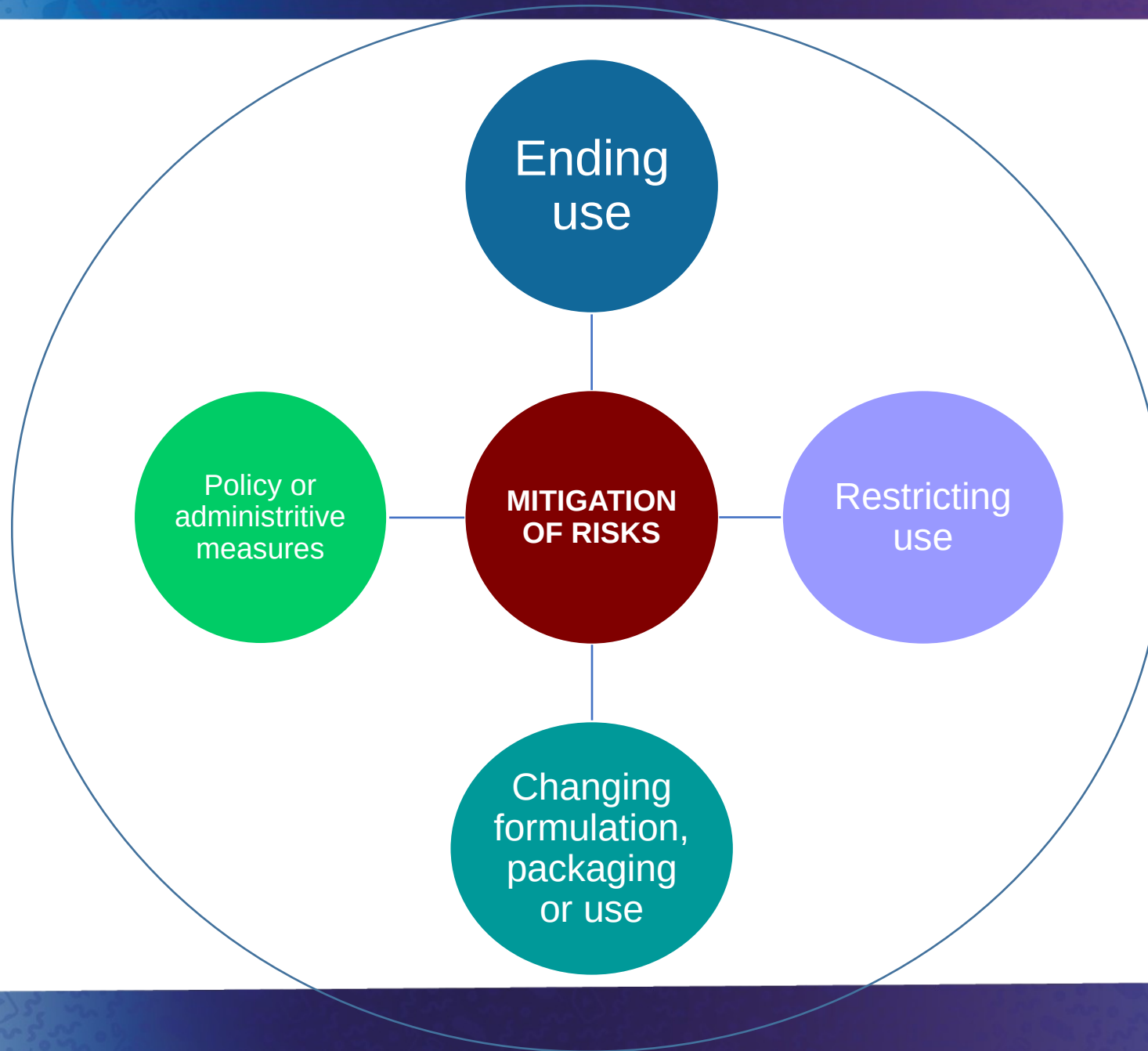
# Opportunities - Challenges



# NEXT STEPS TO UNDERTAKE AFTER THE IDENTIFICATION



# ACTION PLAN



WHAT?

WHO?

HOW?

WHEN?

WHERE?



# Prevention of new HHPs

Review the  
registration system

Strengthen  
pesticides  
legislation

Capacity building  
among different  
actors

Surveillance  
systems





# Recommendations

- Strengthening pesticides management should include health and environmental monitoring systems in each country.
- Countries should reduce HHP risks by ending their use; restricting use; changing formulation, package or use, and by developing alternatives.
- The principal measure of HHP prevention is to review the registration system, review pesticides legislation as well as training and surveillance.
- Promote the use of alternatives for HHPs like IPM, IVM, and organic agriculture.
- Promote the substitution of HHPs by less hazardous pesticides.
- Promote the training and raise awareness of different actors on HHPs.
- After the identification of HHPs, authorities should implement a risk assessment, decide on risk mitigation measures, and prepare an action plan.
- The best way to deal with HHPs is prioritizing those that need special attention. This prioritization should be based on dialogue and agreement between the authorities involved.



# Thank you...



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