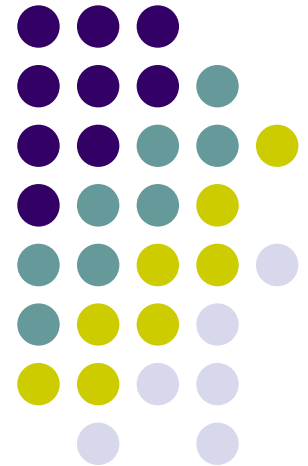
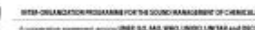


POPs Monitoring (Global Monitoring Plan – GMP)

Dr. Heidelore Fiedler
United Nations Environment Programme (UNEP)
DTIE/Chemicals Branch
chemin des Anémones 11-13
CH-1219 Châtelaine (GE)
Switzerland
e-mail: heidelore.fiedler@unep.org





Targets – Capacity building



Training courses held in 2010: Courses (Countries)

● Pacific Islands:	1	(8)
● West Africa:	3	(6)
● East+Southern Africa:	5	(6)
● GRULAC:	7	(8)
	2	(4)
● Regional 2011 (AMS, BCN):	2	
Total:	20	(32)

**Training institutions for UNEP: CSIC, IVM VU
Amsterdam, MTM Örebro**

Target passive air samplers

- Countries with monitoring sites and number of samplers deployed

	Countries	Samplers
● Pacific:	8	28
● West Africa:	6	26
● East+Southern Africa:	6	31
● GRULAC:	8	46
● CUB	1	25
● BRB, BHS, HTI	3	16
Total:	32	172

Summary of PUF results West Africa

Matrix	PUF	PUF	PUF	PUF	PUF	PUF	PUF	PUF	PUF	PUF	PUF	PUF
Date												
No	1	2	3	4	5	6	7	8	9	10	11	12
Sample ID	COD-IVM-1	COD-IVM-1	COD-IVM-1	COD-IVM-1	GHA-Ist	GHA-IVM-1	GHA-IVM-1	GHA-01-D	MLI-IVM-1	MLI-IVM-1	MLI-IVM-1	MLI-IVM-1
Country	COD	COD	COD	COD	GHA	GHA	GHA	GHA	MLI	MLI	MLI	MLI
Basic POPs	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹
Sum drins	20	24	20	23	0	15	13	9.0	32	31	24	6.3
Sum chlordanes	3.0	3.6	3.0	2.1	0	3.9	3.3	3.4	7.2	5.9	6.6	5.0
Sum DDTs	88	160	159	156	0	43	25	27	613	686	394	157
Sum heptachlor	0.8	0.7	0.6	0.2	0	1.4	1.2	1.4	1.7	2.9	3.1	2.2
HCB	2.1	2.1	1.9	2.1	0	2.4	2.0	1.5	2.2	2.7	4.1	1.8
Mirex	1.0	1.1	1.3	0.5	0	1.2	1.1	0.5	1.5	1.2	1.3	0.7
Sum toxaphene	0	0	0	0	0	0	0	0	0	0	0	0
Sum HCH	10	13	13	5.8	0	9.4	8.7	4.5	11	10	11	5.1
PCB7	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹	ng PUF ⁻¹
Sum PCB7	27	66	117	259	0	23	22	15	33	39	27	14
	DRC-5-I-V	0	MLI-5-I-V	NIG-5-I-V	0	TGO-5-I-V	ETH-5-I-V	0	Ken-5-I-V	MUS-5-I-V	UGU-5-I-V	ZMB-I-V
	DRC	GHA	MLI	NIG	SEN	TGO	ETH	EGY	KEN	MUS	UGU	ZMB
dl-POPs	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹	pg PUF ⁻¹
WHO1998-TEQPCDD/PCDF	167	0	75	16	0	5.8	12	0	48	62	14	15
WHO1998-TEQPCB	88	0	30	2.2	0	2.1	2.1	0	7.2	3.4	2.1	22
WHO1998-TEQPCDD/PCDF/PCB	255	0	106	18	0	7.9	14	0	55	65	16	37

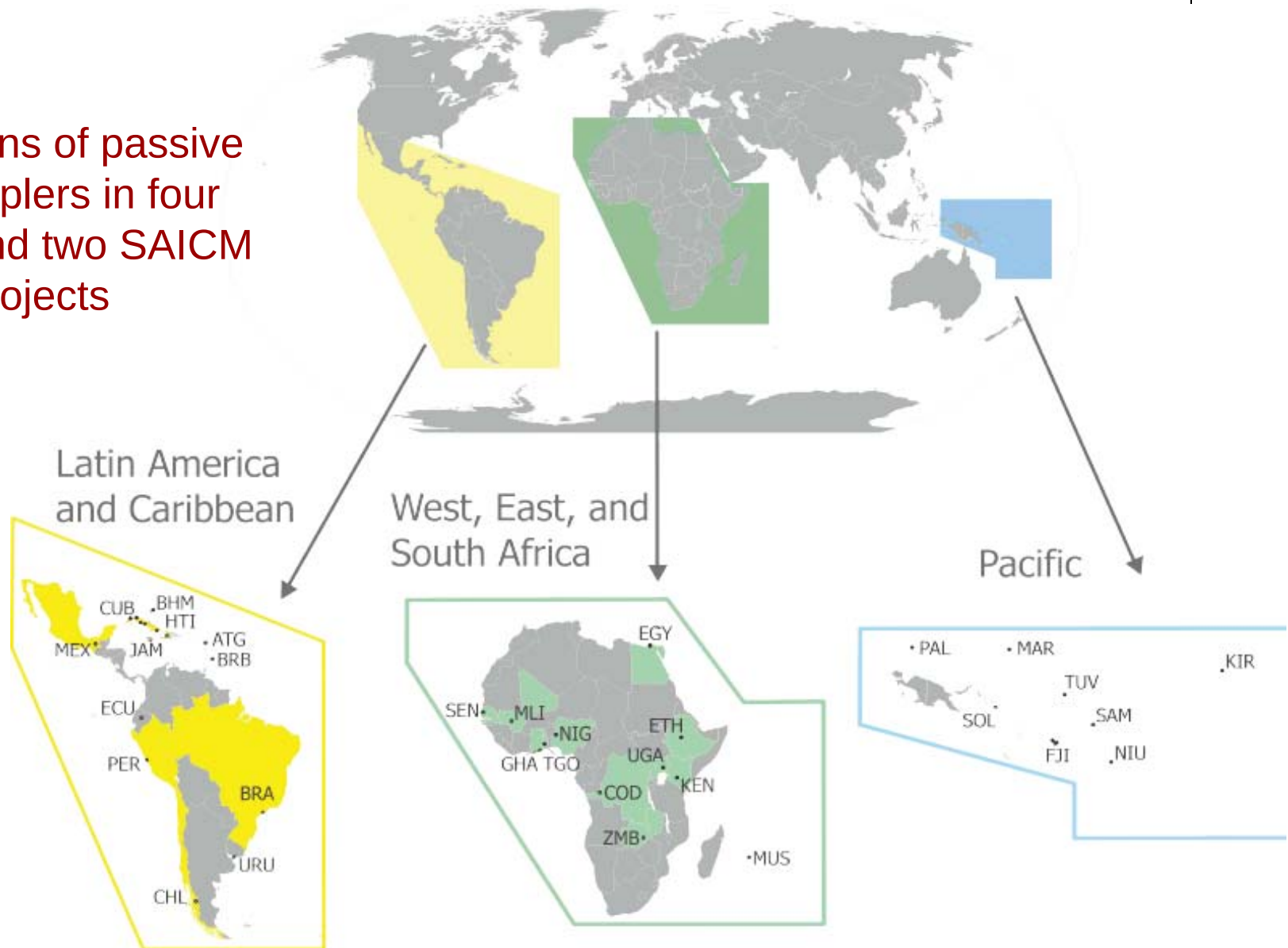
Upper-bound: ND = LOQ

Basic POPs below or close to LOQ
PCDD/PCDF and dl-PCB quantifiable

Preliminary results,
UNEP/GEF project

PAS sites in 32 countries

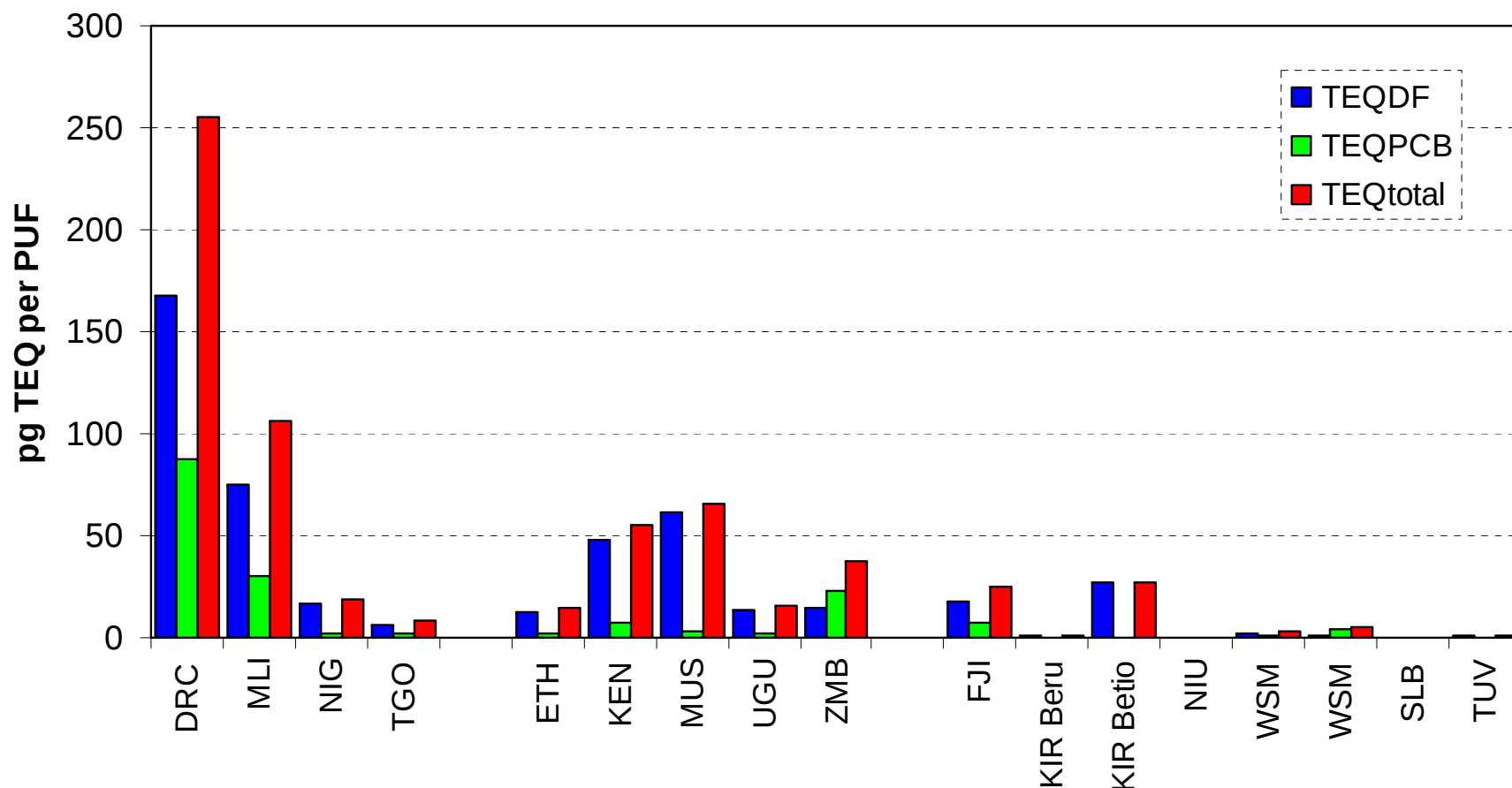
Locations of passive
air samplers in four
GEF and two SAICM
QSP projects



Passive air samplers

Annual samples consisting of 4 quarterly exposures

dl-POPs in PAS - Africa and Pacific Islands



Guidelines Mothers' Milk

Core matrix under Global Monitoring Plan



Procedimiento operativo estándar para el muestreo de COP en leche materna

Proyecto PNUMA - FMAM

Soporte en la implementación del Plan de Monitoreo Mundial de Contaminantes Orgánicos Persistentes (COP) en los países de América Latina y el Caribe (ALC)

GFU/PM8 3778

Julio de 2010



Fourth WHO-Coordinated Survey of Human Milk for Persistent Organic Pollutants in Cooperation with UNEP

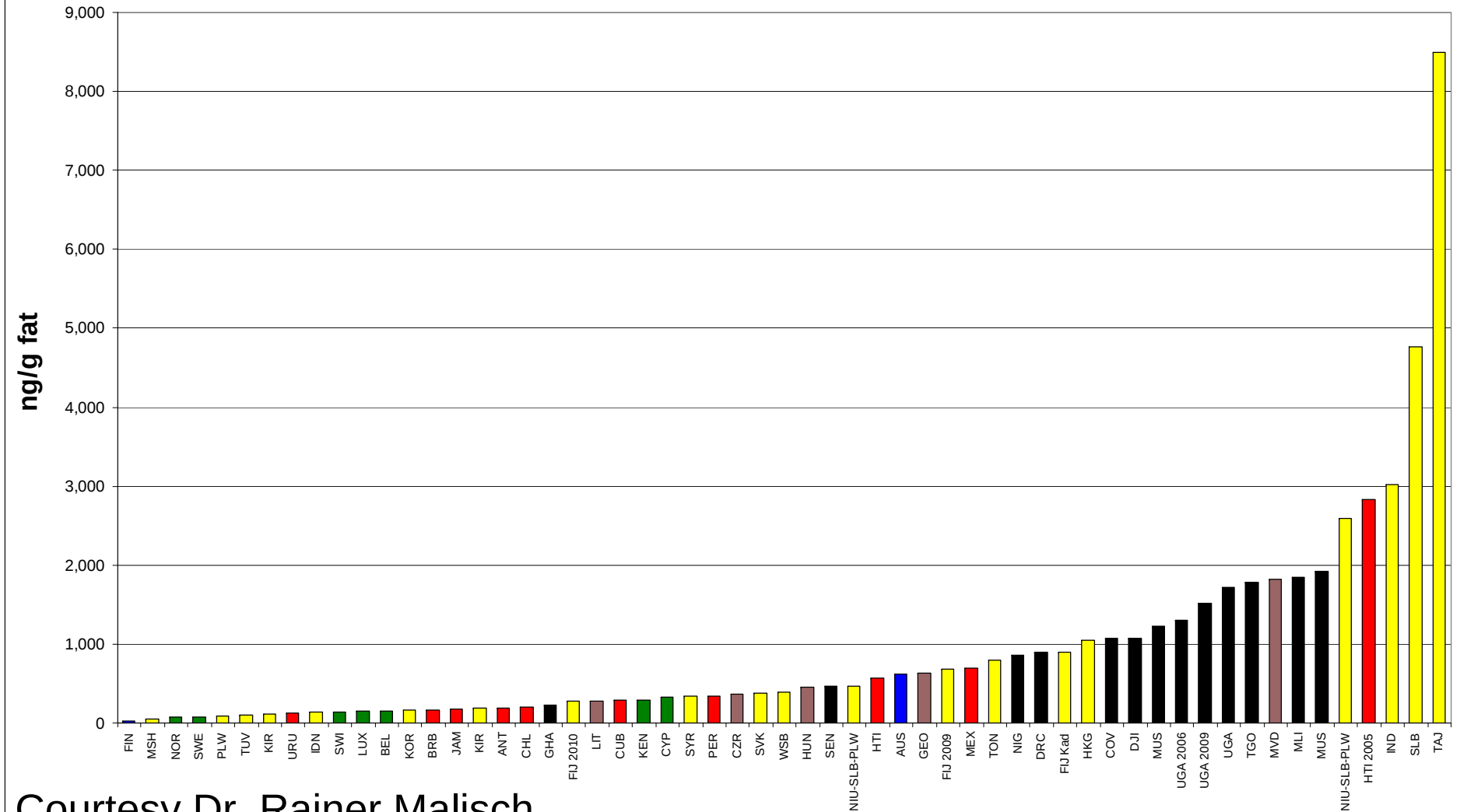
Guidelines for Developing a National Protocol

(Revised 1 Oct 2007)

Cooperation UNEP/WHO with CVUA

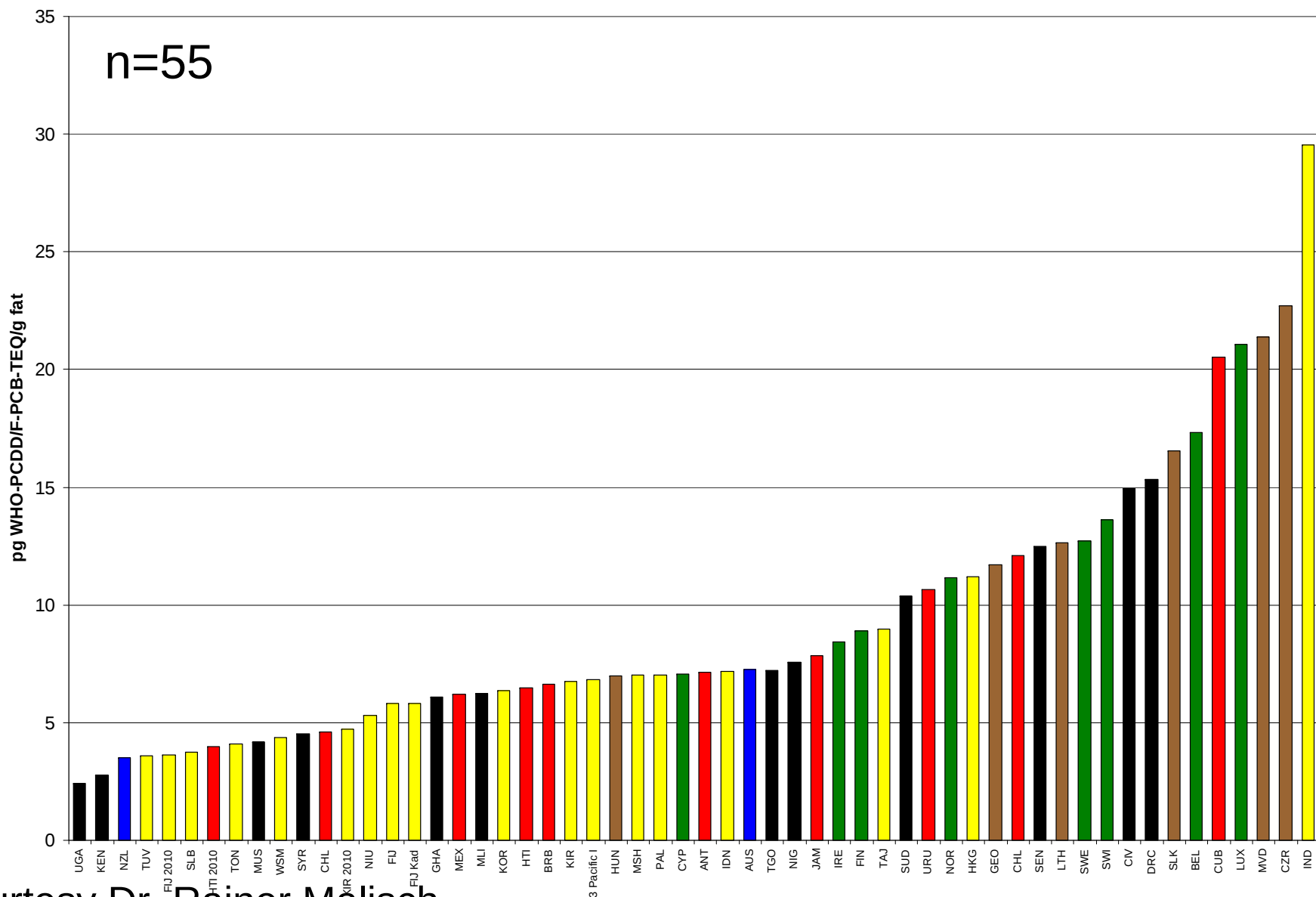


4th and 5th round: results for sum DDT



Courtesy Dr. Rainer Malisch

4th and 5th round: results of WHO-PCDD/F-PCB-TEQ



Courtesy Dr. Rainer Malisch

Identification of new source



ARE ELEVATED DIOXIN LEVELS IN MILK OF WOMEN FROM IVORY COAST AND CONGO DUE TO THE USE OF CLAY DURING PREGNANCY?

Hoogenboom LAP¹, Talidda A¹, Reeuwijk NM³, Traag WA¹, Kotz A³, Malisch R³, Gerald Moy^{former 4}, Angelika Tritscher⁴, Seoung Yong Lee⁴, Katarina Magulova⁵ and Heidelore Fiedler⁶

¹ RIKILT, Wageningen, The Netherlands;

² Food and Consumer Products Safety Authority (VWA), Eindhoven, The Netherlands

³ State Institute for Chemical and Veterinary Analysis of Food, Freiburg, Germany

⁴ WHO, Geneva, Switzerland

⁵ United Nations Environment Programme (UNEP), Stockholm Convention Secretariat, Geneva, Switzerland

⁶ United Nations Environment Programme (UNEP), Division of Technology, Industry and Economics, Chemicals Branch, Geneva, Switzerland

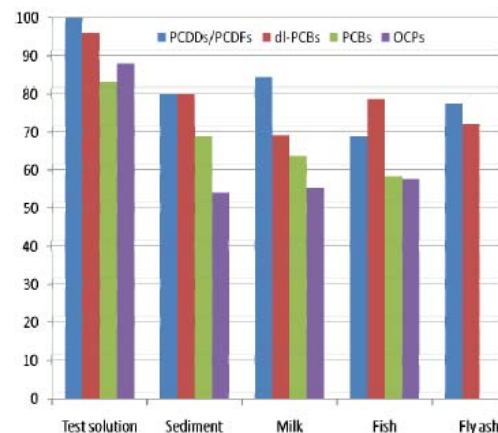
Presented at Dioxin2011

Guidelines

Developing and testing global guidelines: International interlaboratory comparison studies for POPs laboratories



First Worldwide UNEP Intercalibration Study on Persistent Organic Pollutants - Asia Region



United Nations Environment Programme
Division of Division of Technology, Industry, and Economics
Chemicals Branch

June 2010

IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS
A cooperative agreement among UNEP, ILO, FAO, WHO, UNIDO, UNITAR and OECD

Comparison of proficiency tests



	Sediment					Fish/fish oil				
	P.S.	UNEP	IAEA 417	IAEA 383	QUASIME ME	P.S.	UNEP	IAEA 406	IAEA	ICES
Year	2009-11	2006-08	2002	1998	1997	2009-11	2006-08	2000	1993	1988
No. Labs	85	7	78	48	40	85	7	55	-	-
Matrix	Sedim.	Sedim.	Sedim.	Sedim.	Sedim.	Herring	Herring	Fish	Tuna	Fish oil
R.S.D. PCB	40-84 %	150 %	1-160 %	19-180 %	25 %	54-369%	65 %	7-160 %	41 %	39 %†
R.S.D. OCP	44-313 %	130 %	45-140 %	47-150 %	39 %	56-277 %	90 %	3-115 %	-	-
Reference	-	de Boer ea 2008	Mora ea 2007	Mora ea 2007	De Boer and Wells 1997	-	de Boer ea 2008	Mora ea 2007	de Boer ea 2008	Utne ea 1988

P.S. – present study

† CV

References



For further details on UNEP's monitoring and laboratory capacity building projects can be downloaded from:

<http://www.chem.unep.ch/Pops/GMP/default.htm>

The draft new guidance document for the GMP can be downloaded as INF/27 from:

<http://chm.pops.int/Convention/COP/Meetings/COP5/COP5Documents/tabid/1268/Default.aspx>