



ILSI GLOBAL ACTIVITY ON “WATER AND SANITATION PERSPECTIVES”

Overview of the activity

The 2011 ILSI Obesity and Water Forum, January 24th, 2011

Dr. Pratima Rao Jasti

Scientific Project Manager

ILSI Europe a.i.s.b.l.

Email : pjasti@ilsieurope.be

Tel : +32 2 775 9141(direct), +32 2771 0014



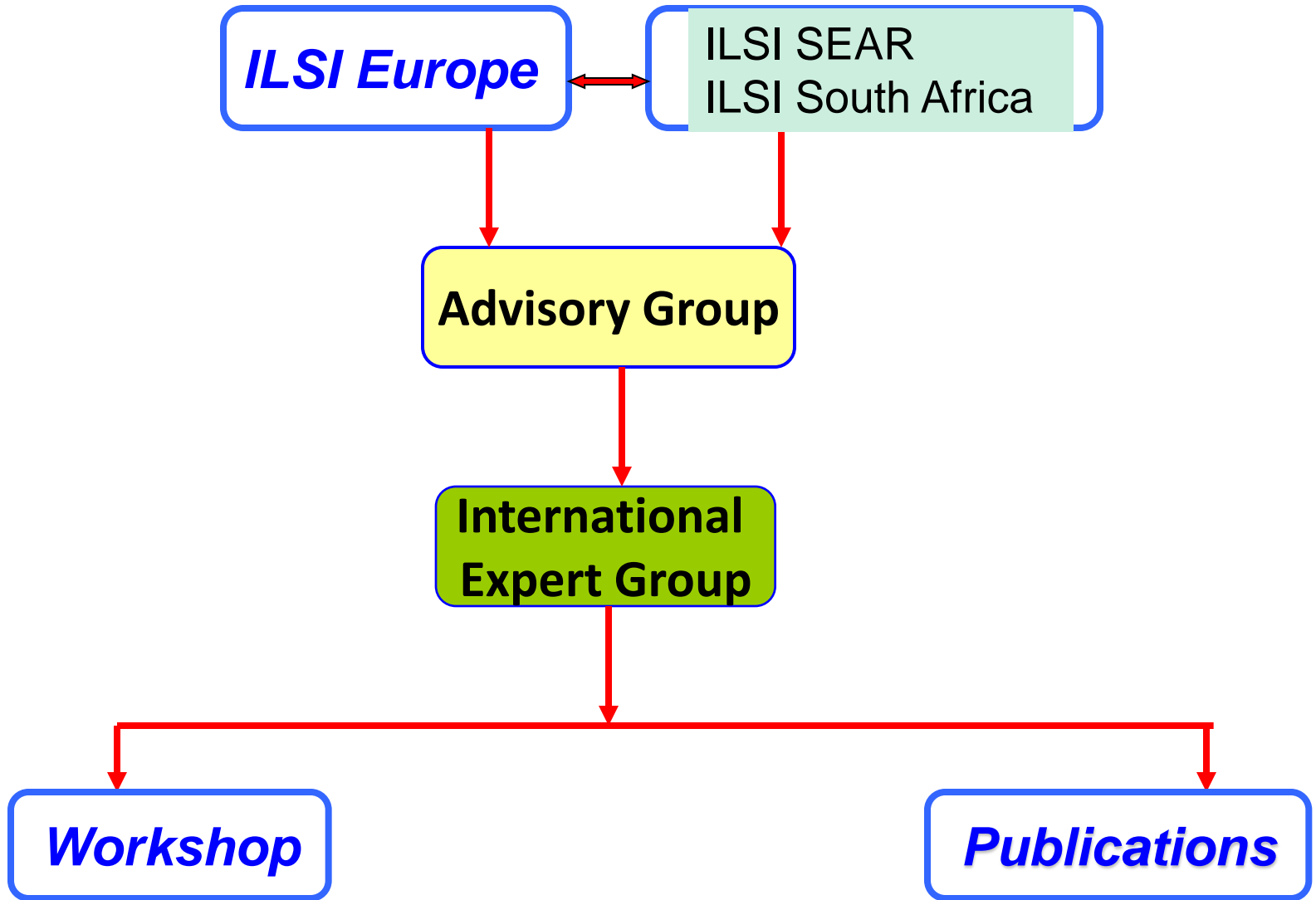


PROGRESS IN 2010

| | 2010 | | | | | | | | | | | |
|-------------------------------------|--------|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Invitation to stakeholders | Yellow | Yellow | Yellow | Yellow | Yellow | Yellow | | | | | | |
| Invitation to ILSI Branches | | | | Green | Green | | | | | | | |
| Formation of Advisory Group | | Red | Red | | | | | | | | | |
| Teleconferences with Advisory Group | | | Blue | Blue | | | | Blue | | Blue | | Blue |
| Identification of priority areas | | | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue |
| Identification of experts | | | | | | | | | Magenta | Magenta | Magenta | Magenta |
| | | | | | | | | | | | | |



Structure





ADVISORY GROUP

| | | |
|-----------------------------|---------------------------------|----|
| Dr. Peter McClure – Chair - | Unilever | UK |
| Dr. Mathew Lau | Nanyang Polytechnic | SG |
| Ms. Annick Moreau | Groupe Danone | FR |
| Mr. Keng Ngee | ILSI South East Asia Region | SG |
| Dr. Liqa Raschid-Sally | IWMI | GH |
| Mr. Nick Starke | ILSI South Africa | ZA |
| Mr. Takashi Togami | ILSI Japan | JP |
| Mrs. Viviana Aranda | ILSI South Andean | CL |
| Dr. Robert Bos | WHO | CH |
| Dr. Sarah Cahill | FAO | IT |
| Prof. Lee-Ann Jaykus | North Carolina University | US |
| Dr. D.H. Panandiker | ILSI India | IN |
| Dr. Darren Saywell | International Water Association | UK |
| Prof. Thor-Axel Stenstrom | SIIDC | SE |
| Dr. Myeong-Ae Yu | ILSI Korea | KR |
| Dr. Pratima Rao Jasti | ILSI Europe | BE |



Priority areas identified

1. The quality of water used in the production of fresh produce
2. The monitoring of water quality in relation to types of waterborne contaminants and their route of entry into the water systems, etc.



Priority areas identified

3. To apply the risk assessment model to use of water in agricultural produce
4. To implement WHO guidelines for the safe use of waste water, excreta and grey water in agriculture and aquaculture, applying the same Stockholm framework as the drinking water guidelines.



Priority area 1: Assessing The Safety of Water Used in the Production of Fresh and Minimally Processed Produce





Matrix of factors

1. Fresh Produce and microbial safety concerns
2. Irrigation waters and other waters used for fresh produce production
3. Microbial hazards linked to irrigation waters and process waters
4. Qualitative risk assessment {Priority area 3}
5. Microbial guidelines and/or recommendations for irrigation waters and process waters used for fresh produces {Priority area 4}
6. Methodology – testing and sampling

Priority
area 2



Future plan

All branches

- Define a mapping of water uses for the production of fresh produce in their own geographical area
- Identify main local agricultural practices versus fresh produce production (geographical specificities) and post harvesting processes (washing, storage)
- Impacts of climate change (water scarcity, flooding) on water availability at local levels (qualitative and quantitative impact on fresh produce production)
- Collect epidemiological data on fresh produce outbreaks
- Identify local regulations related to water in contact or use for the production of fresh produce when existing



Future plan

ILSI Europe

- State of art on microbial hazards linked to irrigation and process waters including data on survival both in waters and on fruits and vegetables and also impact of potential decontamination steps.
- Definition/identification of risk schemes.



Future plan

ILSI South East Asia

- Understanding of the interaction between the different factors and the ultimate quality of fresh produce is limited.
- ILSI SEAR together with Nanyang Polytechnic aims to provide a baseline of methods (incorporating the different interacting factors) to produce a standard or guide for appropriate water use for the minimally processed industry.
- This serves both to enhance sustainability in the use of water without compromising the safety and quality of the products produced by the fresh produce industry.



South Africa: water is limited resource

- pressure from: pollution; increasing population; industrial activity; dry periods
- threat from quality of water used for food production
- Information on water quality used in food related activities - of vital interest

Particular concern: contribution of irrigation water to contaminated produce and disease burden?

Study in SA (started 2007)

- irrigation waters and irrigated produce = high faecal coliforms + E.coli counts
- much higher than WHO and SA national guidelines
- other potential pathogens also detected
- potential pathogens found in irrigation water also present on produce

Objective: Determine “direct link” between pathogen carry-over in irrigation water to produce

- wide range of uncertainties associated with crucial variables
- hugely complex task

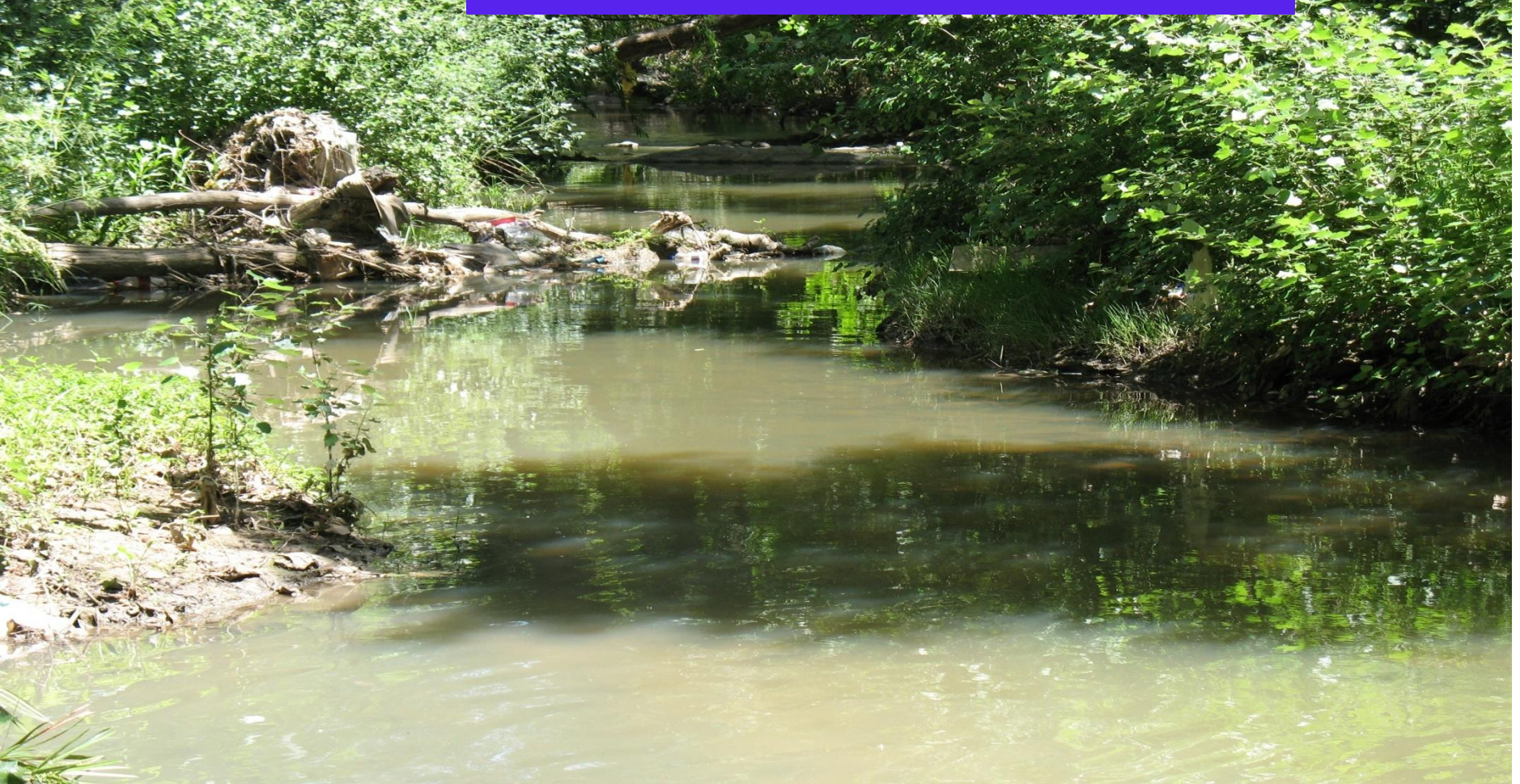
Resolution to problem:

- establish whether microbes in water and on produce are beyond doubt the same
- employ combination of advanced molecular methods and “source tracking”
- part of the ILSI South Africa contribution

- Benefits:**
- ILSI SA - participate & share with ILSI Europe
 - formulation of recommendations on standards for irrigation water for fresh produce
 - more applicable to circumstances in developing & developed environments
 - contribution to Priority Area 1 (headings 1 – 5) of Project Matrix



Polluted river – scenario in South Africa



Coliforms

4 500 000

Faecal coliforms

3 500 000

E.coli

790 000



Next steps

| 2011 | Events |
|----------------------------------|---|
| Kick-off meeting | 29-30th March, Brussels |
| Formation of expert group | Spring 2011 |
| Initiation of activity | Spring 2011 |



Main Outputs

- Panorama of **water uses for the production of fresh produce** in the world (irrigation waters/process waters)
- Influence of water scarcity and flooding on the **quality of irrigation water**
- **Screening of waterborne pathogens** and spoilage organisms potentially contaminating fresh produce (viruses, bacteria, yeasts and moulds, parasites)



Main Outputs

- Mapping of **microbial hazards for fresh produce** regarding geographical area, agricultural practices and water availability.
- **Definition of “model” risk schemes** considering fresh produce categories, waters origin and quality, agricultural practices, etc, regarding geographical considerations.
- **Recommendations on microbial quality of waters** used during the production and/or in contact with fresh produce
- **Recommendations on water resources management** for fresh produce production

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Thank you!