



# **Water for Life, Health & Sustainability: An ecosystem approach to reintegrate water resource management with the determinants of health.**

**Margot Parkes<sup>1,2,3,4</sup>**

1 University of British Columbia, BC, Canada (Research Fellow, Canadian Institutes for Health Research, Initiative in Global Health Research)

2 Network for Ecosystem Sustainability and Health

3 Canadian Community of Practice for Ecosystem Approaches to Health

4 International Association for Ecology & Health

**with Karen Morrison<sup>2</sup>, Martin Bunch<sup>2</sup>, and Henry Venema<sup>2</sup>**

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*Zaragoza, 2 July 2008*



# OVERVIEW

## 1. Concepts: Water for life, health, sustainability

- An integrated framework
- Focus on ‘**L**iving Systems’, ‘**L**ivelihoods’ and ‘**L**inkages’ between ecosystems and social equity

## 2. Context: River Catchments (Cuenca hidrográfica )

- New Zealand (Taieri River Catchment) & Ecuador

## 3. Conclusions: IWRM and Determinants of Health

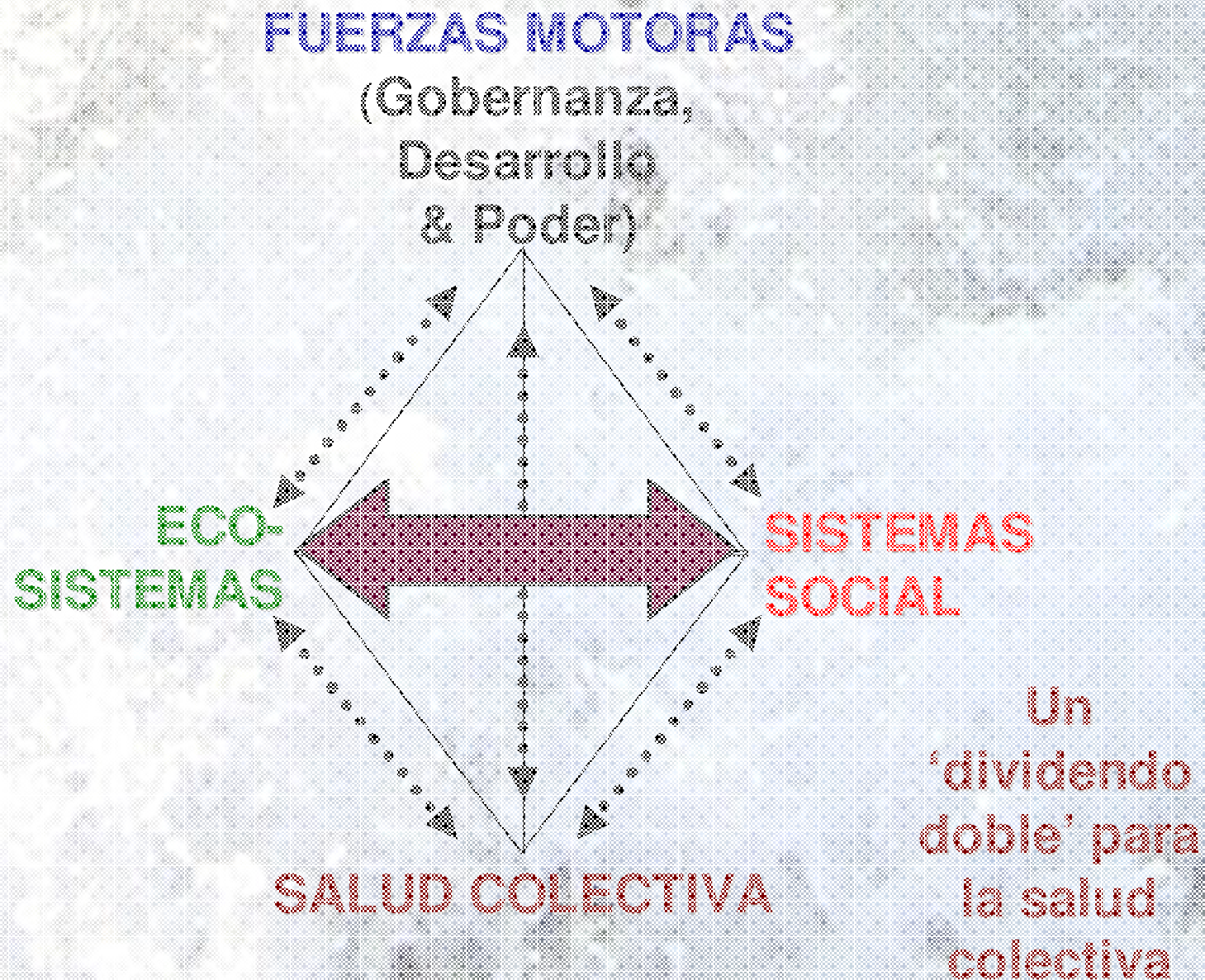
- Implications for governance, policy research, training

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*Zaragoza, 14 de julio de 2008*

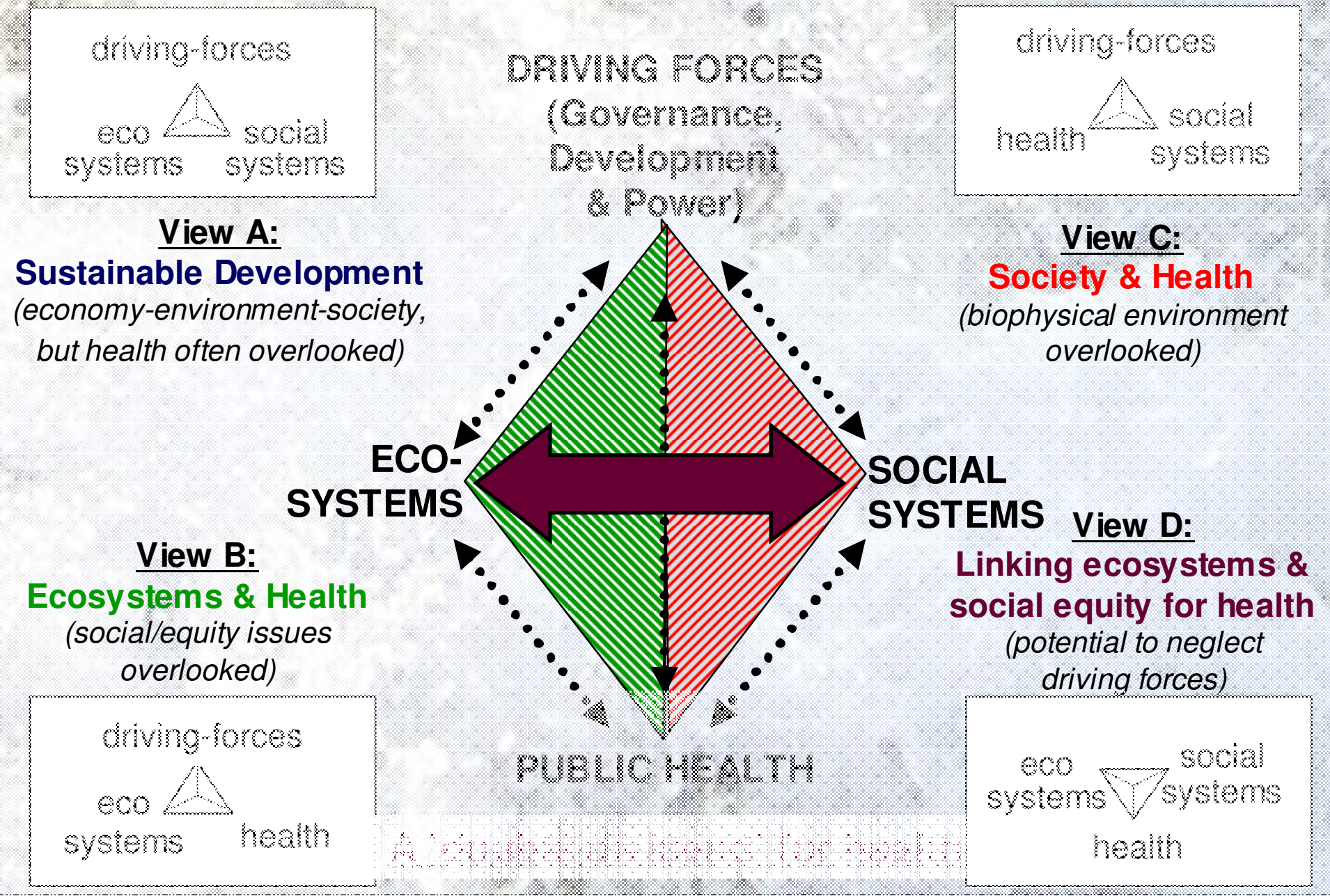


# El Prisma de Salud y Sustentabilidad





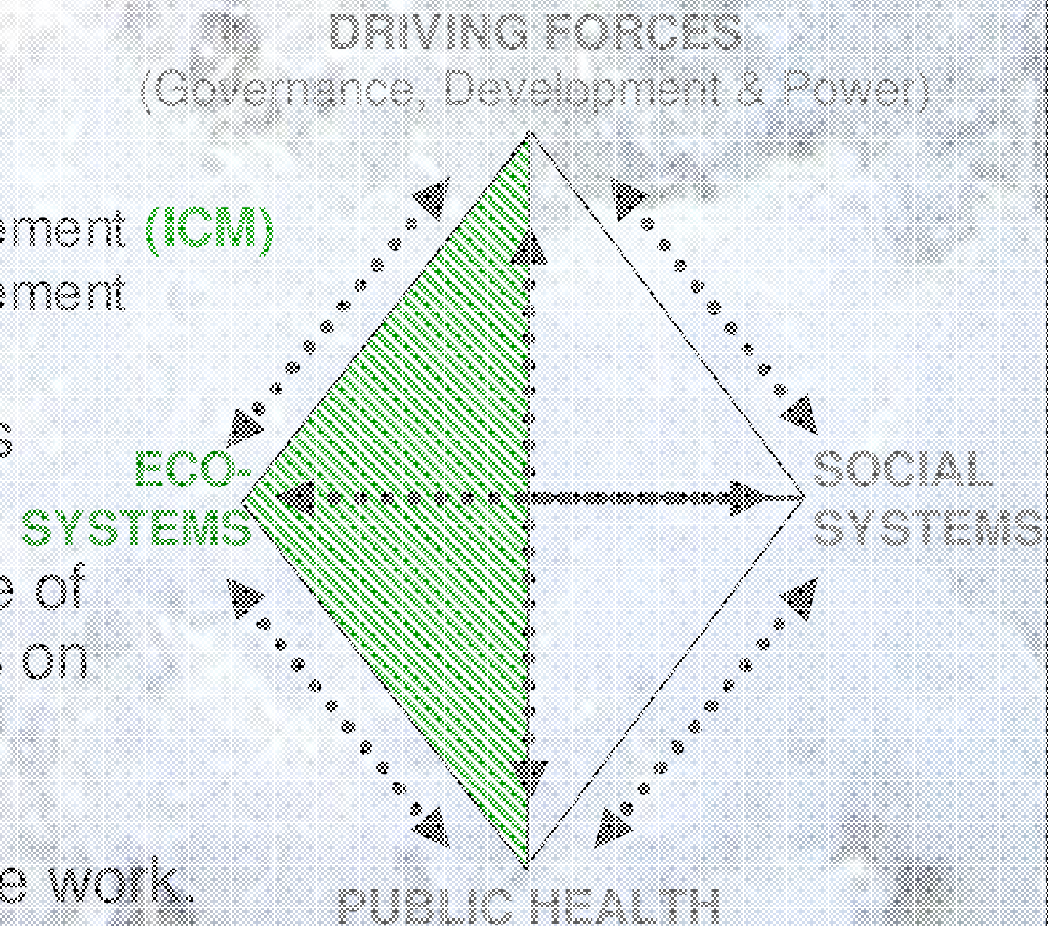
# The Prism Framework: Four views on health and sustainability





## Water, Living Systems & Health

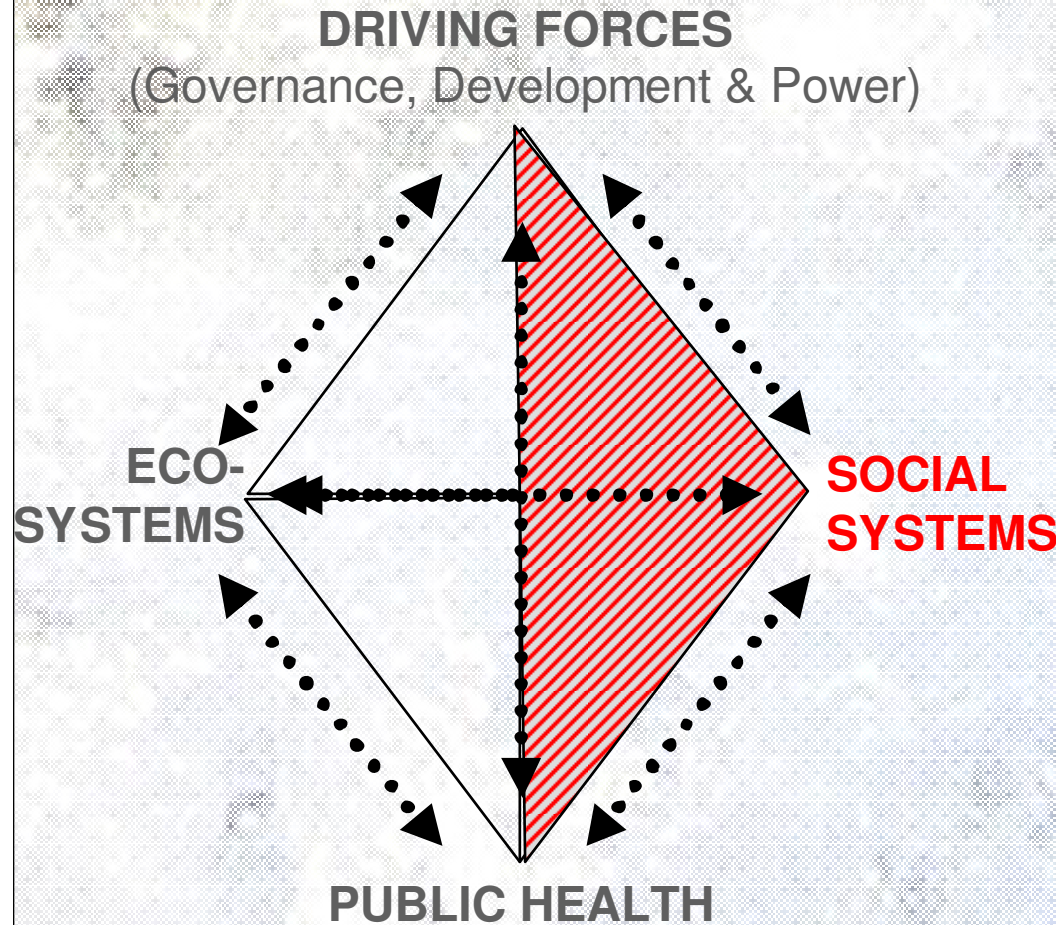
- Ecosystems, wellbeing & the Millenium Ecosystem Assessment;
- An ecosystem approach to Integrated water resource management:
  - Integrated catchment management (ICM)
  - Integrated watershed management
  - River Basin Management
- (Re)discovery of indigenous ecological knowledge;
- Shift from water as a source of hazards/extraction to focus on “water for life”, health and sustainability;
- A context for climate change work.





Rural?

## Water, Livelihoods & Health



**Social determinants of health:** offers a 'new' view:

Socioeconomic impacts of water 'deficits'/extremes

→ Dams, droughts, and inequitable loss of livelihoods (rural & beyond)

*"the issue of equity - is at the root of the adverse health impacts from dams"* (WCD)

Social and health benefits of water as an "asset":

→ ICM to reduce poverty & address **health inequities**.

*"Addressing the intersection between social determinants of environmental change and the effect of environmental change on health inequities will benefit sustainable ecological and population health alike."*

WHO Commission on Social Determinants of Health (Marmot 2007 p.1156)



# Linkage between Ecosystems, Equity & Health

- ICM as a multistakeholder, ‘participatory’ processes;
- **Good practice** in ecosystem management, health promotion, community development
- **Resilience:** “cultivate enduring capacity to respond positively to change and challenges”
- **Collective Learning:**

**Local & community knowledge**

**Specialised knowledge**

**Strategic knowledge**

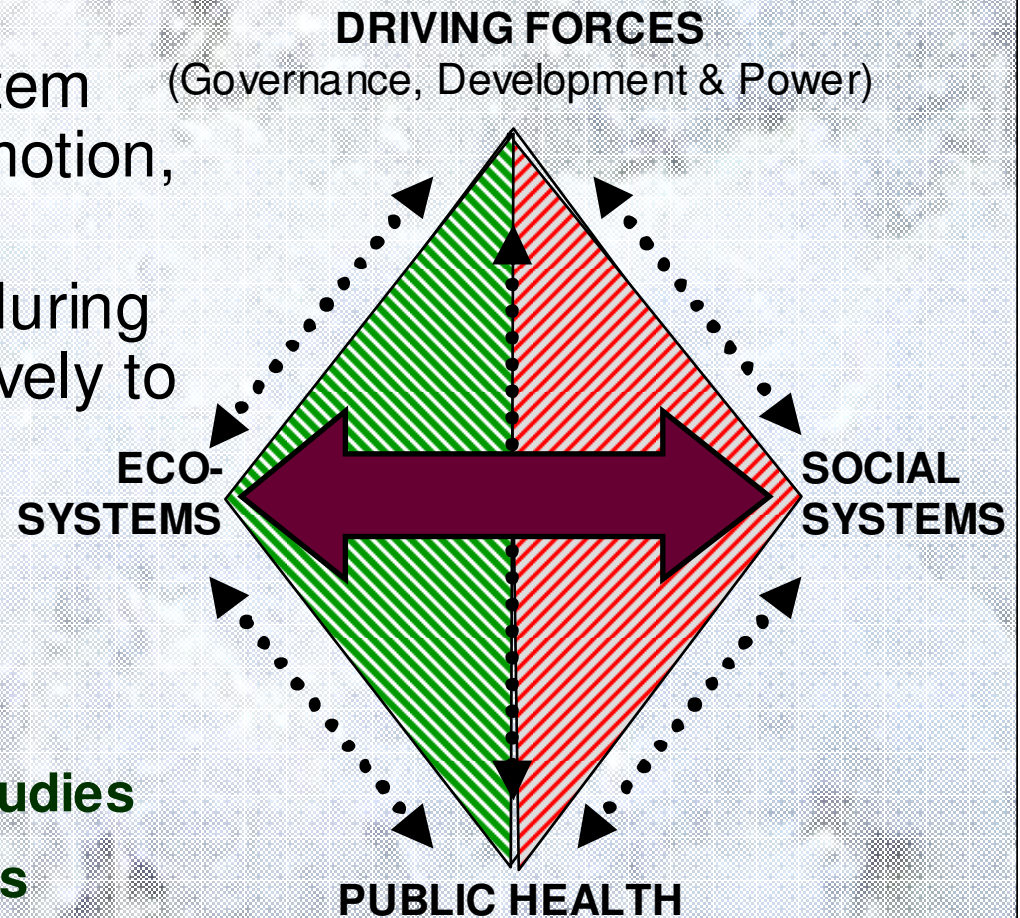
**Holistic knowledge**

**Stories**

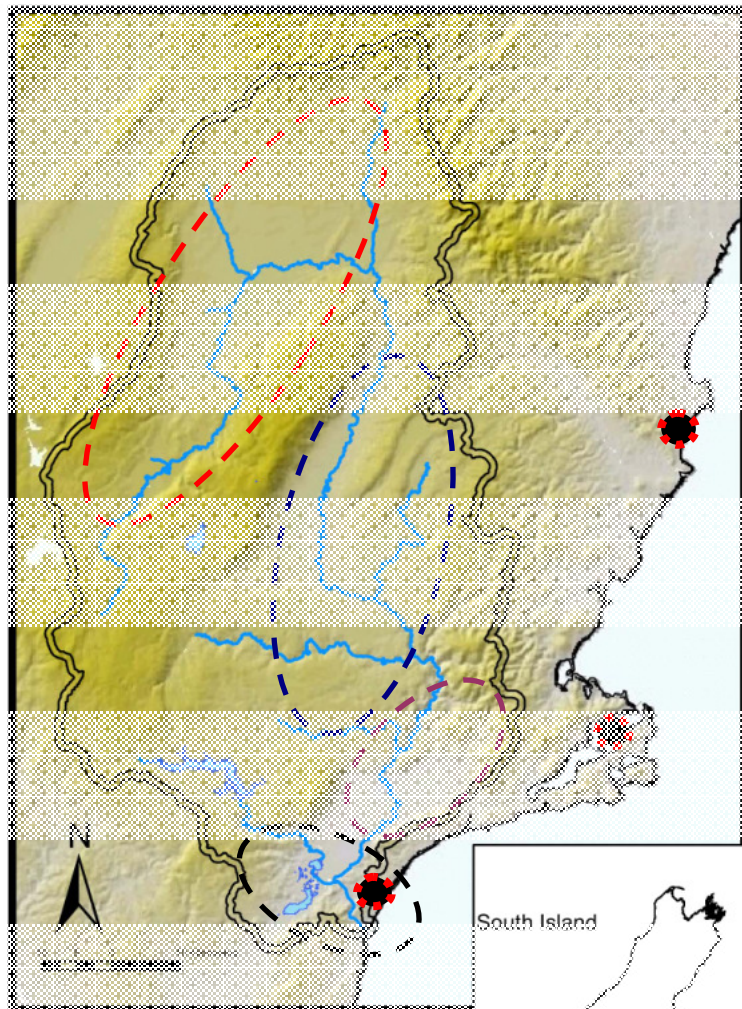
**Case-studies**

**Agendas**

**Shared vision**






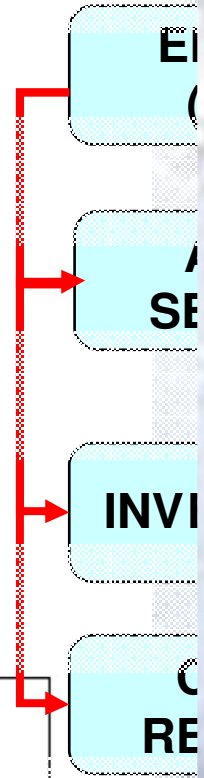
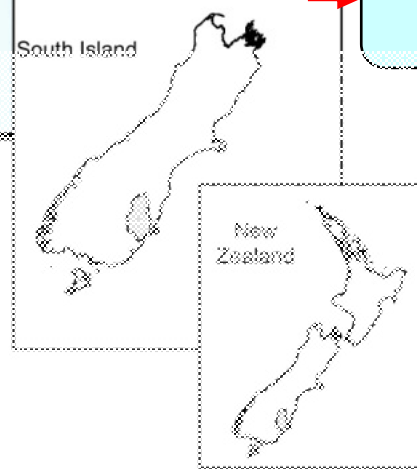




The Taieri River Catchment: Relief Map

**Legend**

-  Lakes
-  Taieri River and Main Tributaries
-  Taieri Catchment Boundary



plu





# Water, Ecosystems, Equity & Health in Ecuador

Community defined by  
'riego'/irrigation system

(14 years to build!)

Three students from this  
community with projects on:

1. management of 'paramo' upland water source;
2. health and ecosystem impact of pesticide-use;
3. evaluation of residual/waste water contamination and options for community response

Changing hats – community, researcher, educator

**TUCAYTA "SUMAK KAWSAY"**  
"HACIA UN BUEN VIVIR"  
Gestión social, recuperación de recursos naturales y sistemas de producción agropecuaria

**SUBPROYECTOS**

- > Protección páramos.
- > Efectos uso agrotóxicos.
- > Aguas servidas y ambiente.
- > Manejo recurso hídrico.
- > Seguridad alimentaria.
- > Participación comunitaria.

**OBJETIVOS**

Mejorar condiciones de vida de familias campesinas e indígenas, a través del manejo adecuado de recursos naturales y sistemas productivos, con participación comunitaria

Evaluar problemática del páramo en perspectiva de asegurar el cumplimiento de sus funciones ambientales, sociales y socio-económicas.

Evaluar contaminación y efectos de plaguicidas en medio ambiente y sistemas producción agropecuaria en zona media.

Establecer grado contaminación aguas residuales de ciudad de Cañar en comunidades bajas de Tucayta e impacto ecosistémico.

Determinar condiciones del agua y establecer plan de manejo integral en función de la salud.

Análisis procesos producción y consumo en comunidades y su impacto en alimentación y ecosistema.

Fortalecer propuesta organizativa y participativa (interseccional), para cuidado y defensa de ecosistemas.

**Metodología**

Investigación Acción Participativa  
Descripción histórica  
Observación  
Estudios transversales - longitudinales  
Técnicas: Cuantitativas - Cualitativas

**ESES:**  
Cultural  
Transdisciplinario  
Integral  
Participativo  
Comunitario  
Equitativo

**Impacto:**  
Mejoramiento del ecosistema.  
Incremento de la producción.  
Rescate y valoración de las especies andinas.  
Rescate de sistemas de producción ancestral  
Disminución de morbilidad  
Mayor expectativa de vida sana.  
Políticas públicas saludables

**Contexto.**  
La Corporación de Organizaciones Indígenas Cañarías (TUCAYTA), comprende 7860 habitantes (1580 familias), 90% indígenas y 10% mestizos, tiene tres pisos ecológicos y problemáticas ecosistémicas variadas.

**Perfil de pisos ecológicos**

**Deterioro páramo**

- > Avance frontera agrícola
- > Deforestación
- > Quema
- > Ganadería extensiva
- > Explotación áridos
- > Botaderos saturados
- > Destrucción ciudad

**Contaminación zona media**

- > Uso masivo agrotóxicos
- > Contaminación ambiente (agua, suelo, aire) y sistemas producción agrícola
- > Residuos radioactivos, salud y vida

**Aguas servidas zona baja**

- > Alimentos contaminados
- > Baja comercialización
- > Contaminación ambiente
- > Enfermedades parasitarias, crónicas y agudas

**Autor:** Rafael AkulemaUlises Freire, Cesarito Guamán, Leonardo Medina, Lorena Mosquera, Marcelo Verdugo



## **Summary:** Integrated Catchment Management as a 'universal' approach for:

- i. **Living Systems** that protect from hazards, sustain services & promote safe/ healthy environments (see MA);
- ii. **Sustainable, equitable Livelihoods,**  
equitable management of water can enable poverty reduction and social engagement to reduce health inequities.  
Looks upstream to the “**causes of the causes**”, WHO CSDH);
- iii. **Linkage between ecosystems, social equity & health.**  
As a collaborative process ICM has the potential to:  
build social-ecological resilience, *and*  
improve social and environmental determinants of health.



## **Conclusion: Catchments as settings for:**

- ***Governance:*** A context for adaptive, cross-sectoral, multi-stakeholder processes for health and sustainability;  
Can health funds be 'diverted' upstream? And/or  
**Can/should upstream activities 'claim' health benefit?**
- ***Policy Research:*** Linkage between water resource management and the determinants of health & wellbeing;  
Practical, policy frameworks for Ecohealth & Watersheds?  
([www.nesh.ca](http://www.nesh.ca), [www.iisd.ca/natres/water](http://www.iisd.ca/natres/water))
- ***Training:*** Capacity for integrated knowledge-generation, & actions  
[www.ecohealth.net](http://www.ecohealth.net), [www.copeh-canada.org](http://www.copeh-canada.org)



in\_focus ▶

# Health

AN ECOSYSTEM  
APPROACH

[www.idrc.ca/ecohealth](http://www.idrc.ca/ecohealth)

International EcoHealth Forum,  
Mérida, Mexico,  
Dec 1-5 2008

[www.ecohealth.net](http://www.ecohealth.net)

Gracias!

[www.nesh.ca](http://www.nesh.ca)

[www.iisd.ca/natres/water](http://www.iisd.ca/natres/water)

[www.copeh-canada.org](http://www.copeh-canada.org)

