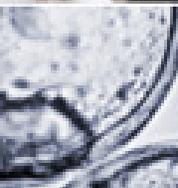


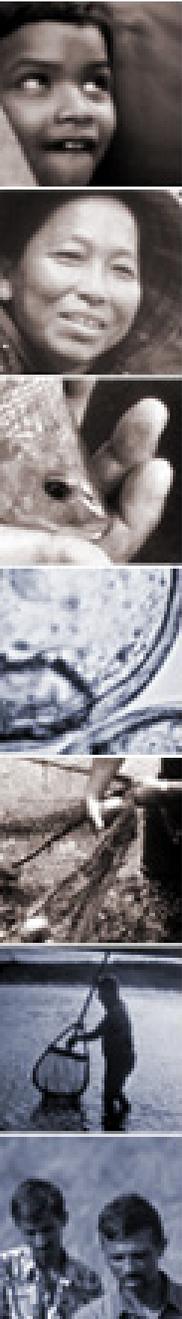
WorldFish, Aquaculture Development and Impact Pathway Models

Malcolm Beveridge, WorldFish Center, Cairo

background

- The following series of slides is based on recent discussions with WorldFish staff, the WorldFish BoT and partner organizations in which we seek to explain the role we see for aquaculture in poverty alleviation. The presentation takes as its starting point the our investments in aquaculture development, that are required to contribute most effectively to achieving the MDGs.
- The presentation summarizes current thinking about the investments required and how we envisage it acting as a catalyst to achieve these. It begins by saying something about WorldFish's mandate and the role of aquaculture in alleviating poverty. It goes on to discuss what we hope to achieve through a concerted investment in supporting aquaculture development and in so doing makes strong linkages with the emergent thinking and practice in impact pathway models. The particular value of impact pathway models for designing and implementing such concerted investments is described.
- While the impact pathway models are seen as essential in clarifying organizational thinking, investment and action, we believe that their most profound role will be in helping identify constraints and actions at the regional level. The series of slides concludes by examining how this might work in practice, using Africa as an example.
- This is very much a work in progress. However, we offer it as an insight as to how impact pathway models might be used at various levels within organizations where research impact is paramount. We welcome feedback and comment.





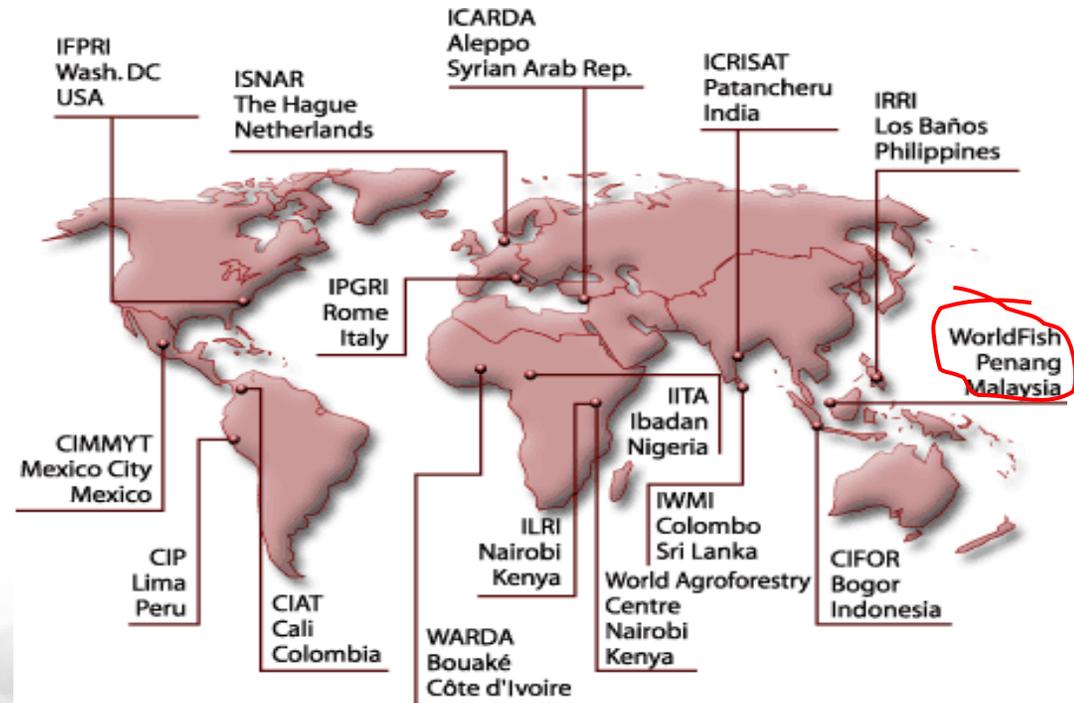
WorldFish and aquaculture



CG Centers and WorldFish

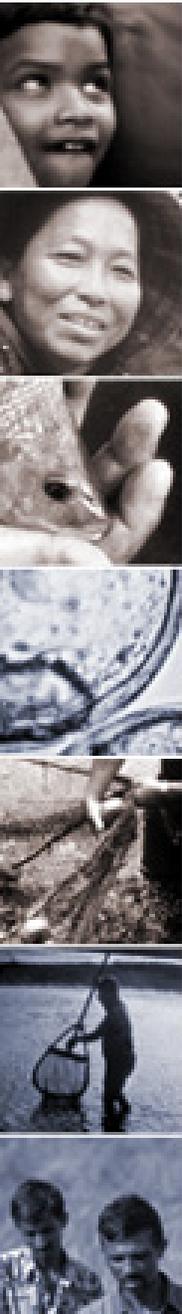
CG Mission

'.. to achieve sustainable food security and reduce poverty in developing countries through scientific research and research-related activities in agriculture, forestry, fisheries, policy and environment'



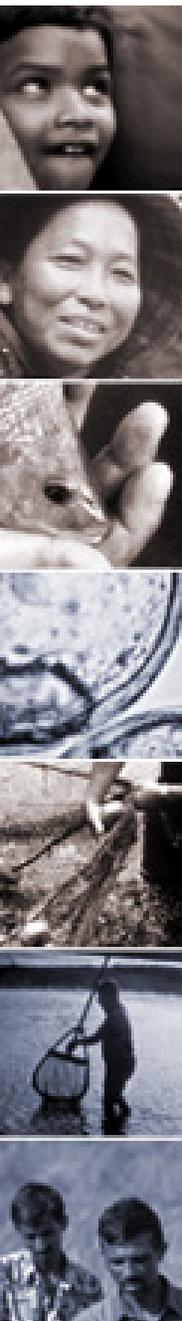
WorldFish Mission

'.. to reduce poverty and hunger through fisheries and aquaculture'



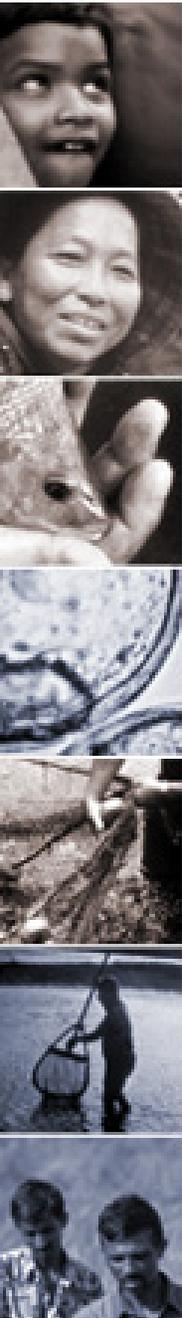
aquaculture

- one of the world's most innovative and rapidly growing food sectors
 - technical developments
 - market opportunities
 - investments
- contemporary aquaculture
 - expanding output
 - increasing competition
 - falling prices
 - impacts on food supplies, incomes and employment in many regions



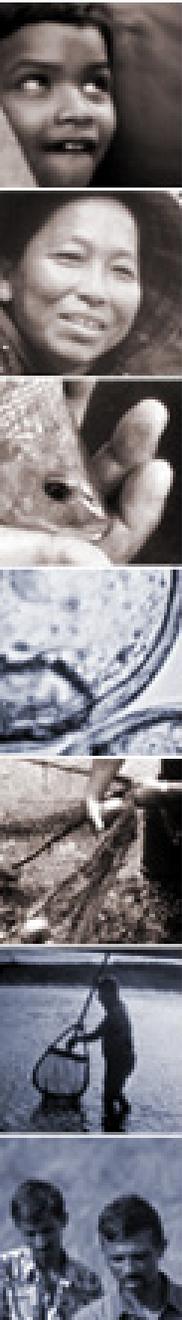
aquaculture

- aquaculture is fêted as the means for satisfying the world's growing demand for aquatic food products
 - MDGs
- however, expansion and increasing internationalization, concerns
 - environmental impacts
 - consumption of environmental goods and services
 - inequity and social exclusion
 - perpetuating/aggravating discrepancies in power and earnings
- capitalize on the dynamic for sectoral growth to conduct research focused at helping people escape from poverty, without unacceptable adverse impacts on the environment

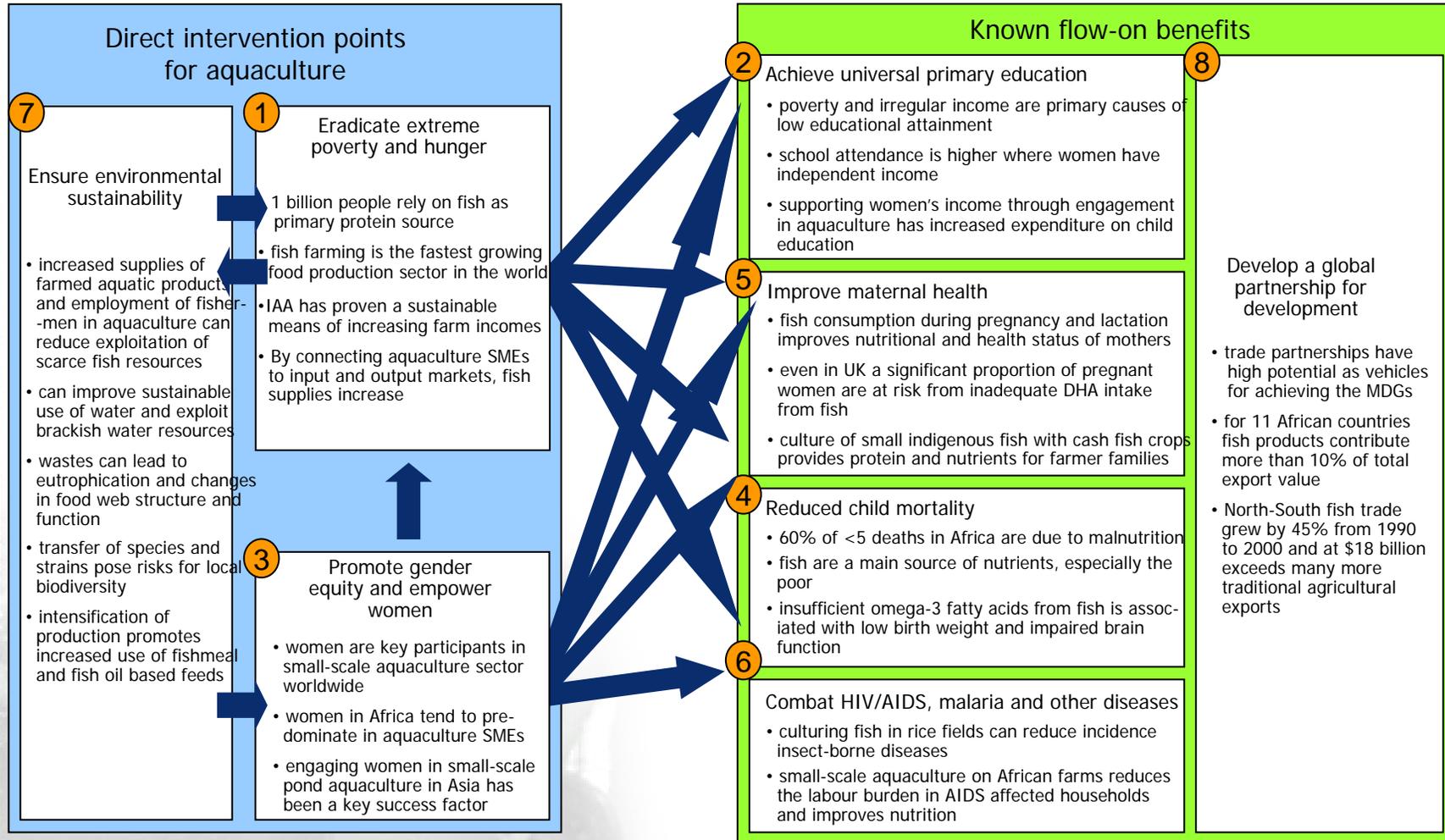
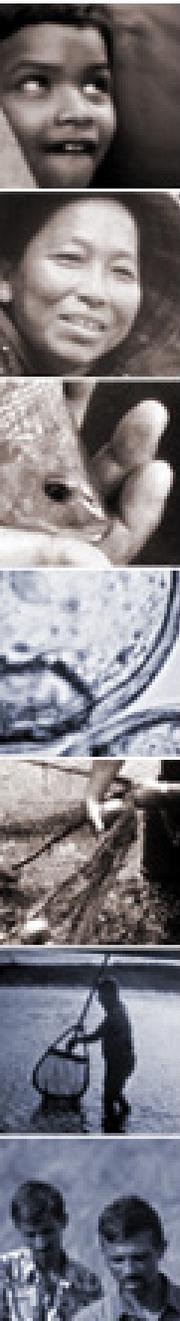


goal - *core assumptions*

- poor people can benefit
- **directly** – and significantly - from aquaculture by
 - adopting aquaculture as part of their livelihood strategy
 - starting a hatchery, feed or fish transport business
 - producing fish on-farm
 - gaining employment as an aquaculture worker
 - gaining access to improved supplies of fish at affordable prices
- **indirectly** - and significantly - through increased economic activity generated by the uptake and spread of aquaculture
- investment in aquaculture is cost-effective when compared to alternative poverty alleviation investments

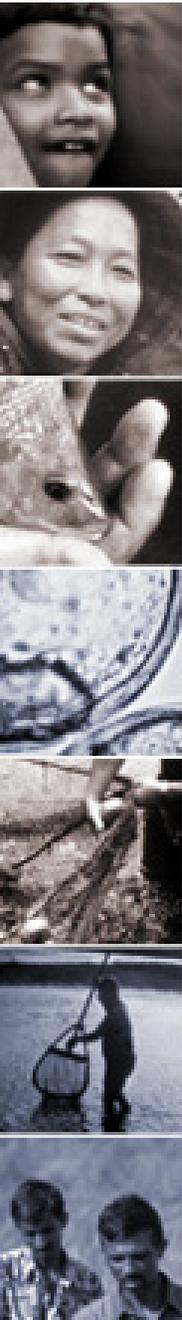


assumptions – *impacts on MDGs*



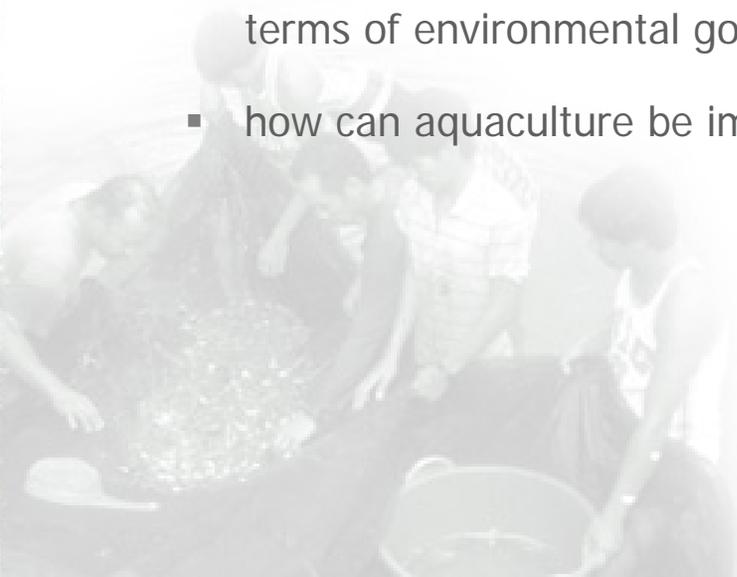
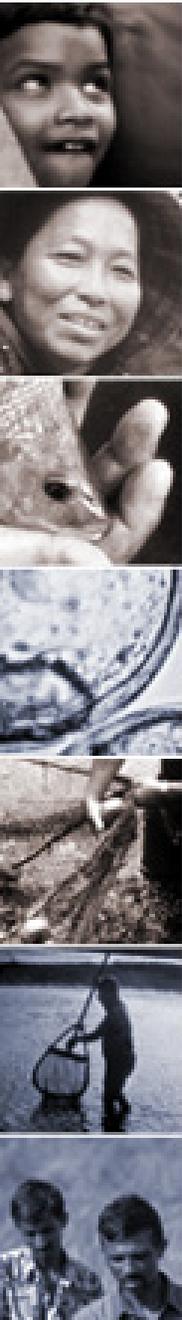
but ...

- plausible promise?
 - evidence that aquaculture can sustainably deliver direct benefits to poor?
 - evidence that aquaculture can be an engine for rural development?
 - evidence that aquaculture has distinct advantages in cost/benefit terms?
- experiences of FAO, bilateral agencies, NARs, NGOs, WorldFish, etc.
 - ensure effective dissemination of data and key messages
 - research papers (science and civil society)
 - policy briefs (governments, donors)
 - model business plans (investors)
 - ensure experiences are considered in developing policy instruments (World Bank, bilateral development agencies, governments)



and ...

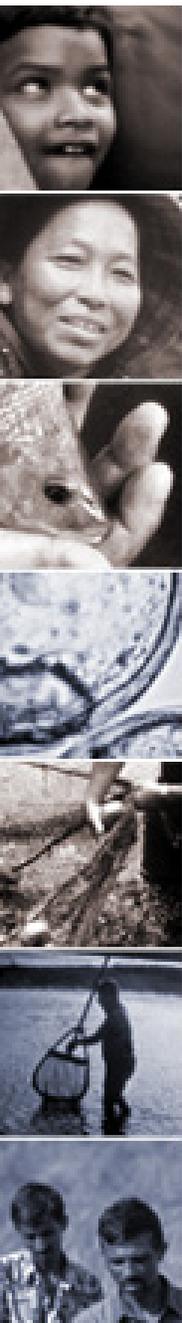
- further research
 - why is aquaculture successfully and sustainably adopted in one place but not another?
 - are there technological innovations that could be developed/implemented that would increase sustainable benefits?
 - how can aquatic productivity be increased without net dis-benefits in terms of environmental goods and services?
 - how can aquaculture be implemented to maximize benefits to poor?





our goal for aquaculture



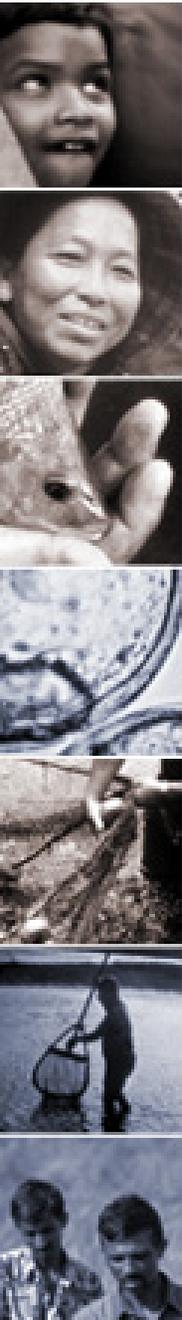


‘establish aquaculture as a cost effective and sustainable means of lifting poor people out of poverty’



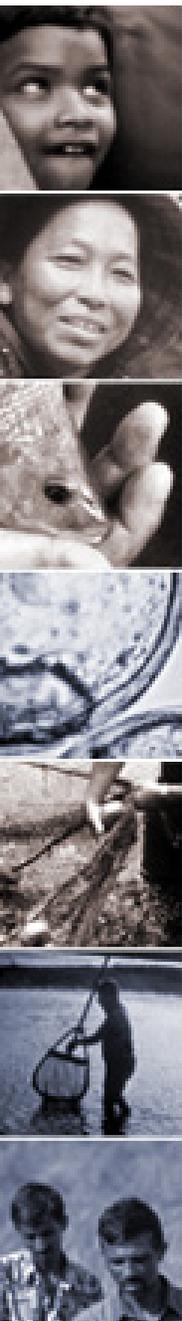
realizing our goal

- WorldFish must have a realistic and convincing view of how aquaculture can be best used to alleviate poverty, in order to
 - galvanize action, alignment and co-investment in aquaculture to help meet MDGs
 - guide WorldFish's actions/research at organizational and regional levels
- organizational assessment of aquaculture must be
 - realistic (broad coherence with others)
 - evidence-based
 - plausible
- several ways to do this



impact pathway models

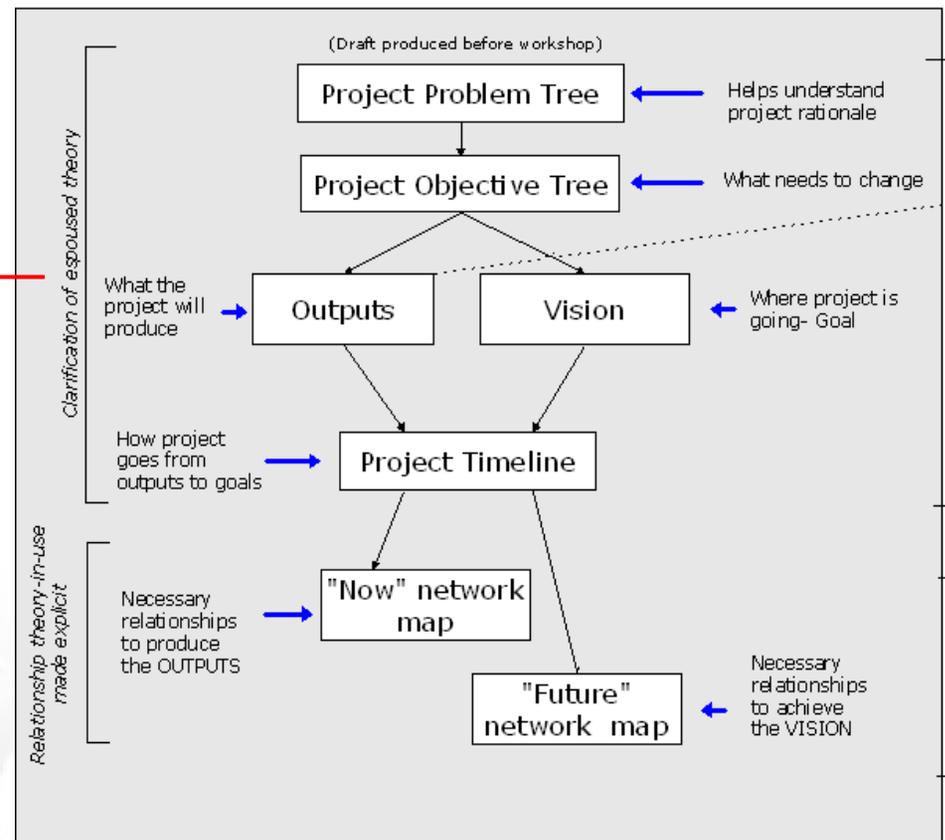
- consist of a logic model
 - defines causal chain of activities, outputs, outcomes through which WorldFish expects to achieve its goal
 - establishes a framework for aquaculture
 - establishes and links priority interventions, outputs and outcomes
 - increases impact through better (i.e. impact oriented) management
 - communicates impacts of actions, maintaining and increasing funding streams
 - *plus* a network model
 - elucidates evolving relationships among implementing organizations, partners and beneficiaries necessary to achieve goal
 - advantages of impact pathway models
 - maximize research impact; plausibility



impact pathway approach

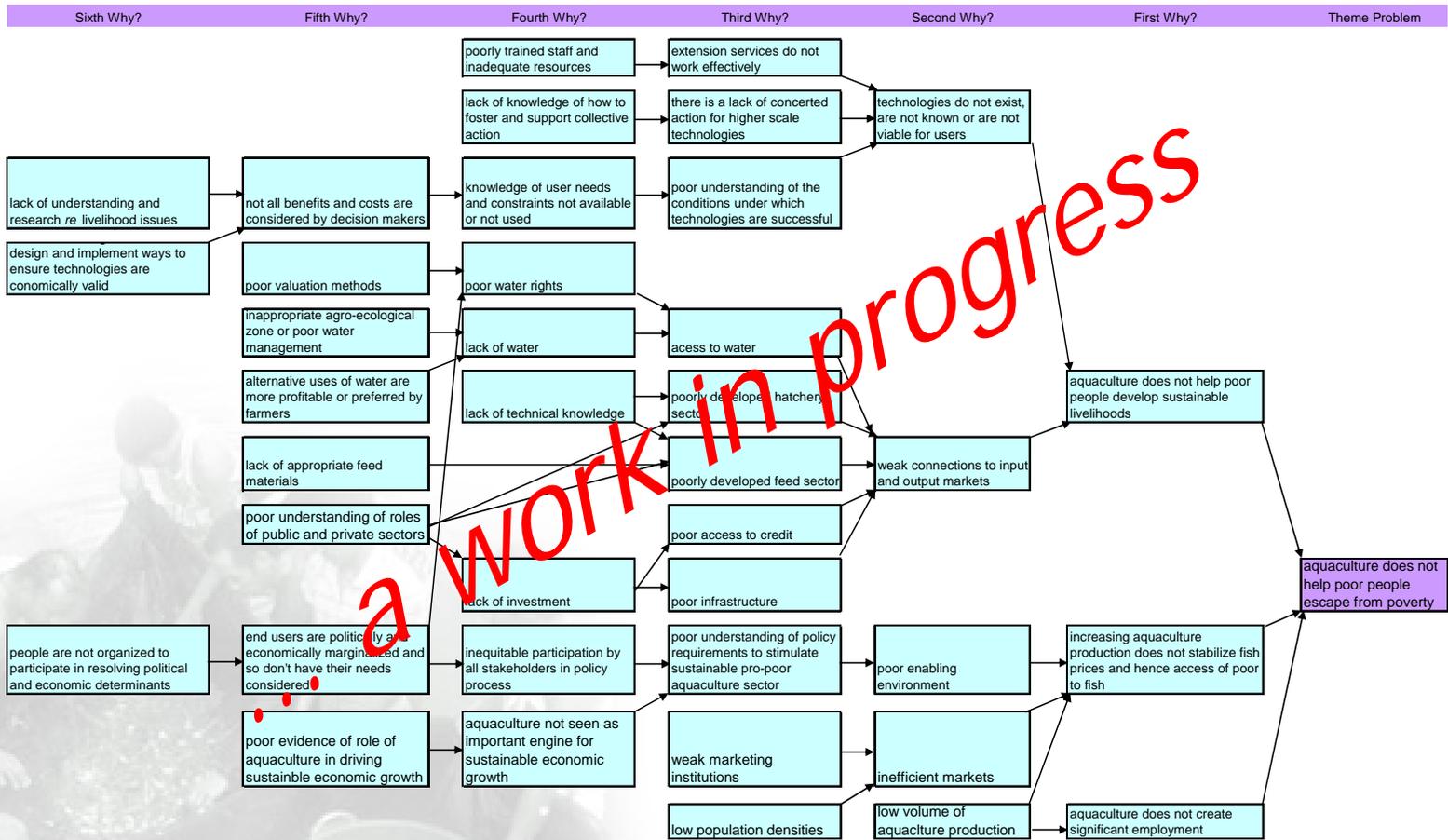
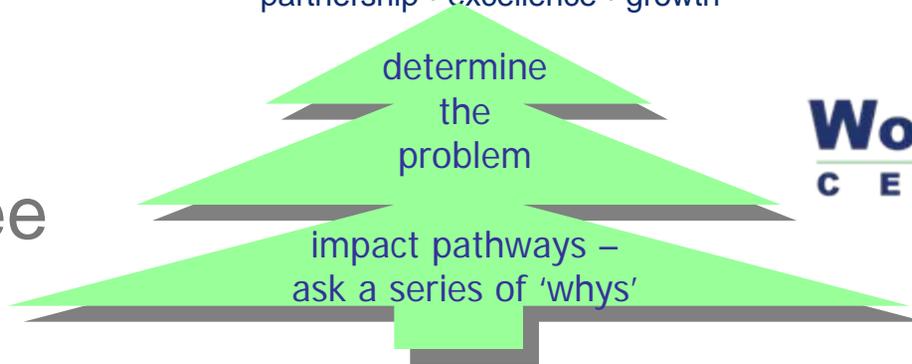
- clarify the theory
- workshop environment
 - produce problem tree
 - produce objective tree
 - determine interventions
 - determine outputs/vision

OUTPUTS OF IMPACT PATHWAYS WORKSHOP

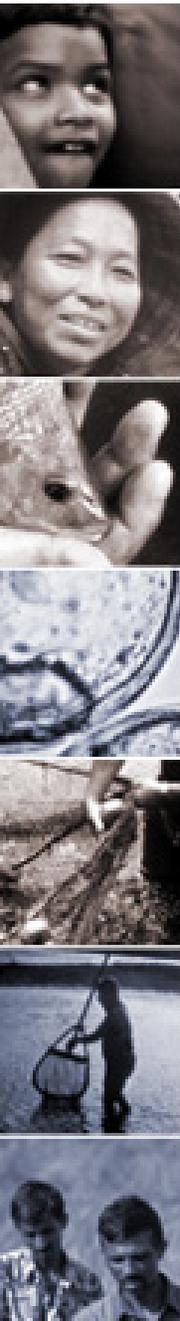


from: <http://boru.pbwiki.com/>

Problem Tree



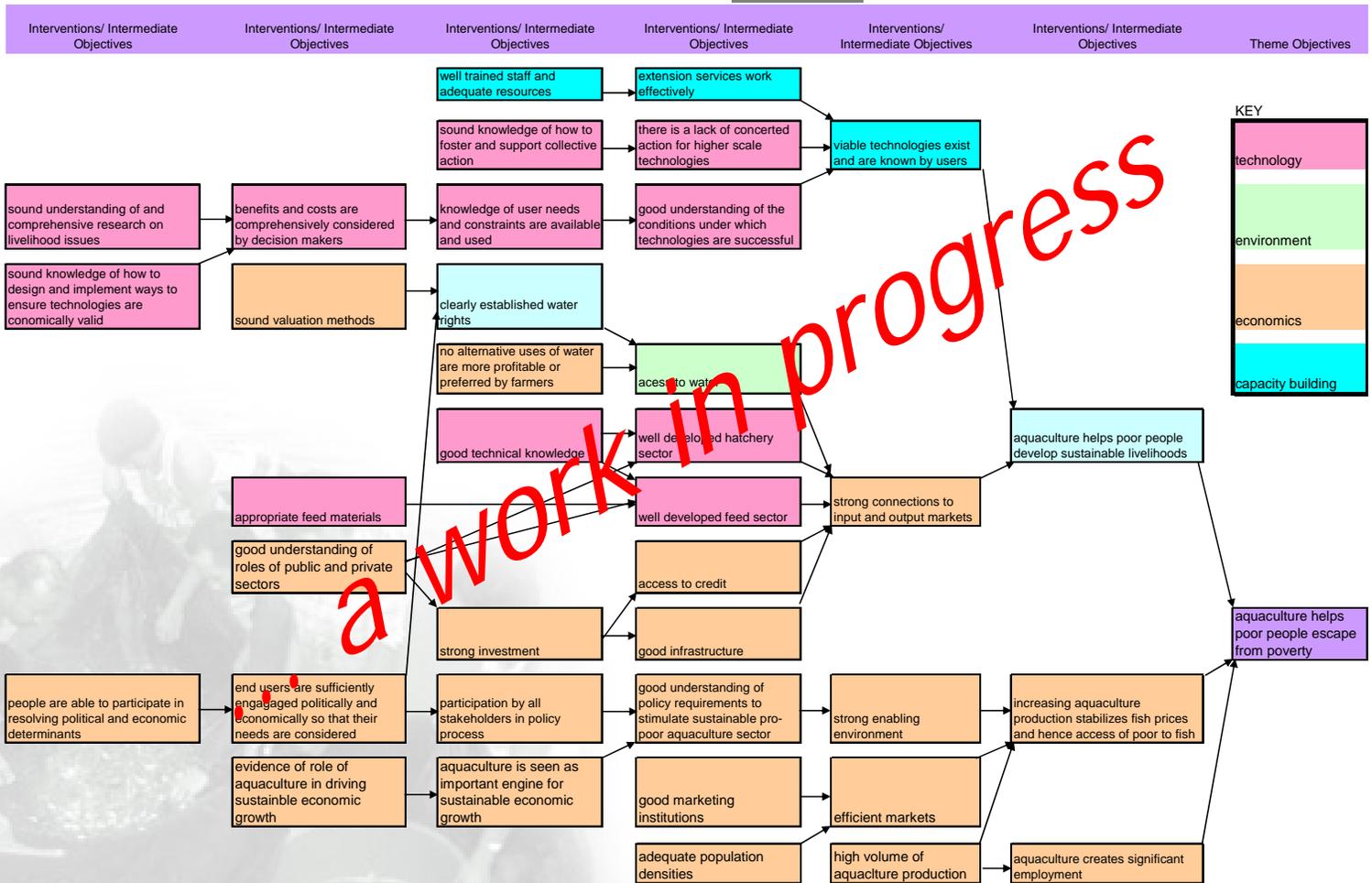
a work in progress





Objective Tree

analysis of likely extent of specified change

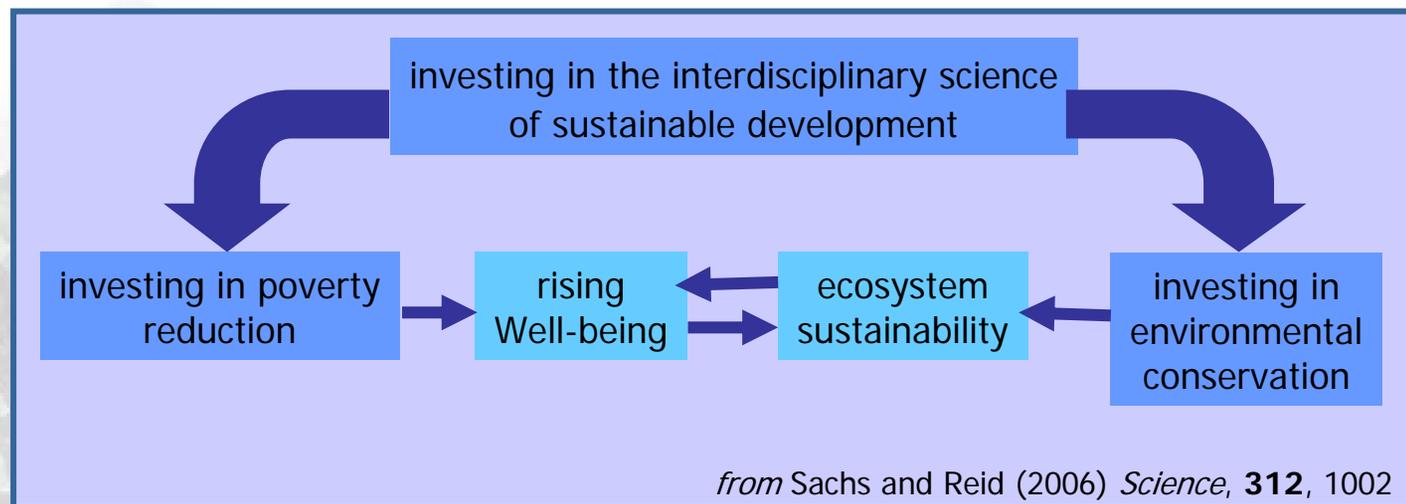


AQ high impact interventions

- an engine for rural economic development
- development of aquaculture technologies
- protection and enhancement of the environment
- development of human capacity

themes

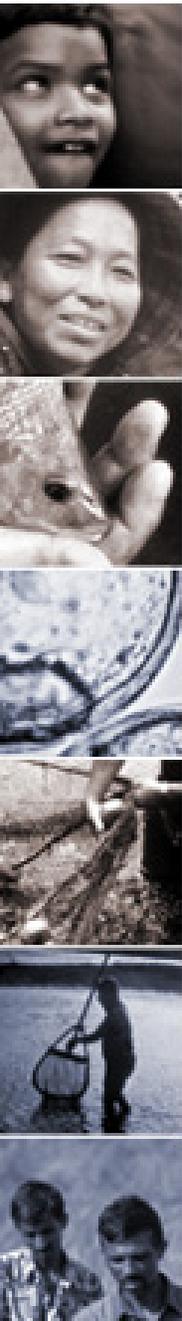
consistent with emerging models of sustainable development



from Sachs and Reid (2006) *Science*, **312**, 1002

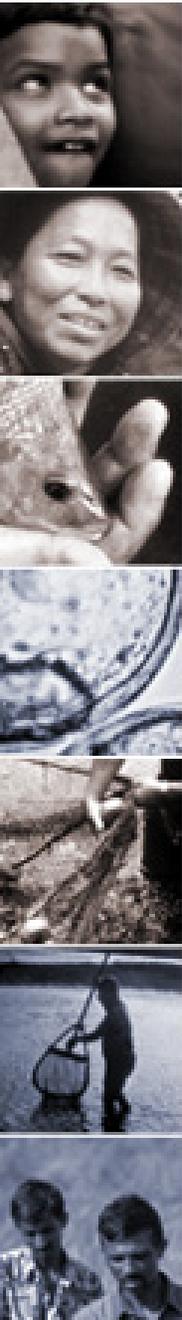
an engine for rural development

- poor people often have the resources and skills to use aquaculture to help lift themselves out of poverty
- but, there are also many constraints to successful adoption
 - poor health and education
 - access to input (e.g. seed, feed, credit) and output markets
 - technological knowledge and management skills
 - poor enabling (infrastructure and policy) environments
 - political and social constraints



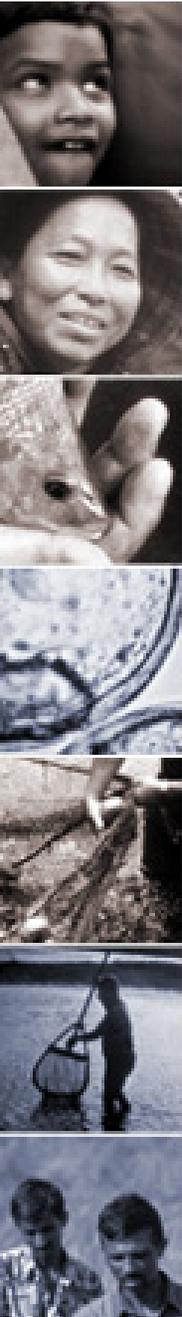
sustainable technologies

- many emergent technologies
 - improve use of labour, nutrients/feed, energy
 - deliver wider social benefits
 - reduce demands on environmental services
 - improve sustainability
 - increase production
 - generate more profits



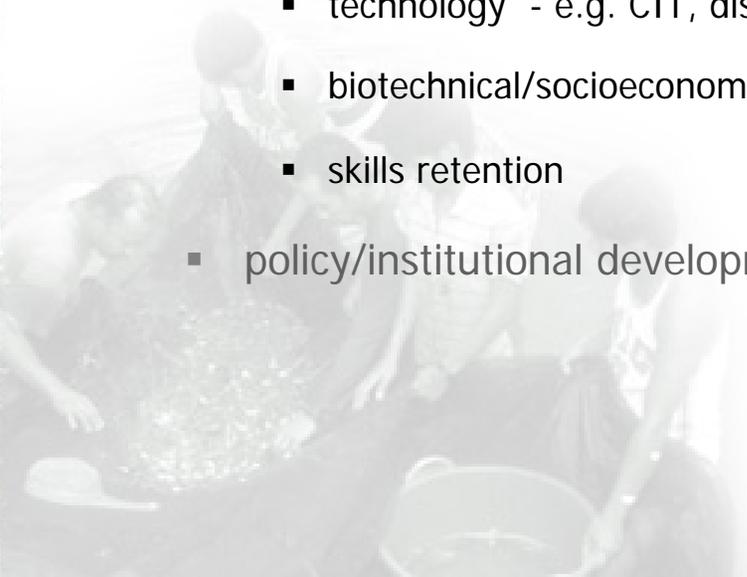
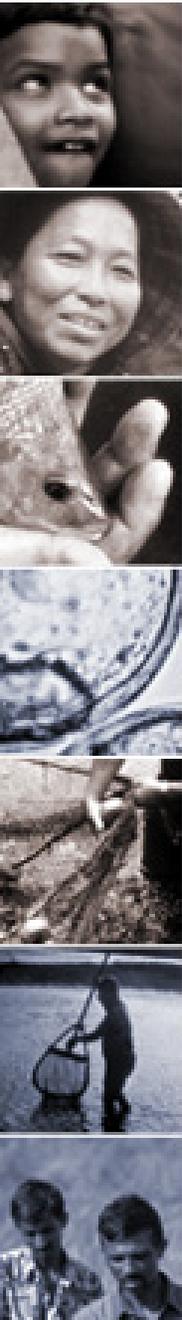
environmental quality

- aquaculture can lead to improved use of resources
 - recycling and better use of on-farm wastes
 - water productivity
- but can make unsustainable demands on environmental goods and services
 - poor are most vulnerable
- better understanding of benefits/costs/risks
 - trans-located species and improved strains
 - large-scale cage development
 - intensification
 - climate change (e.g. coastal communities)



human capacity development

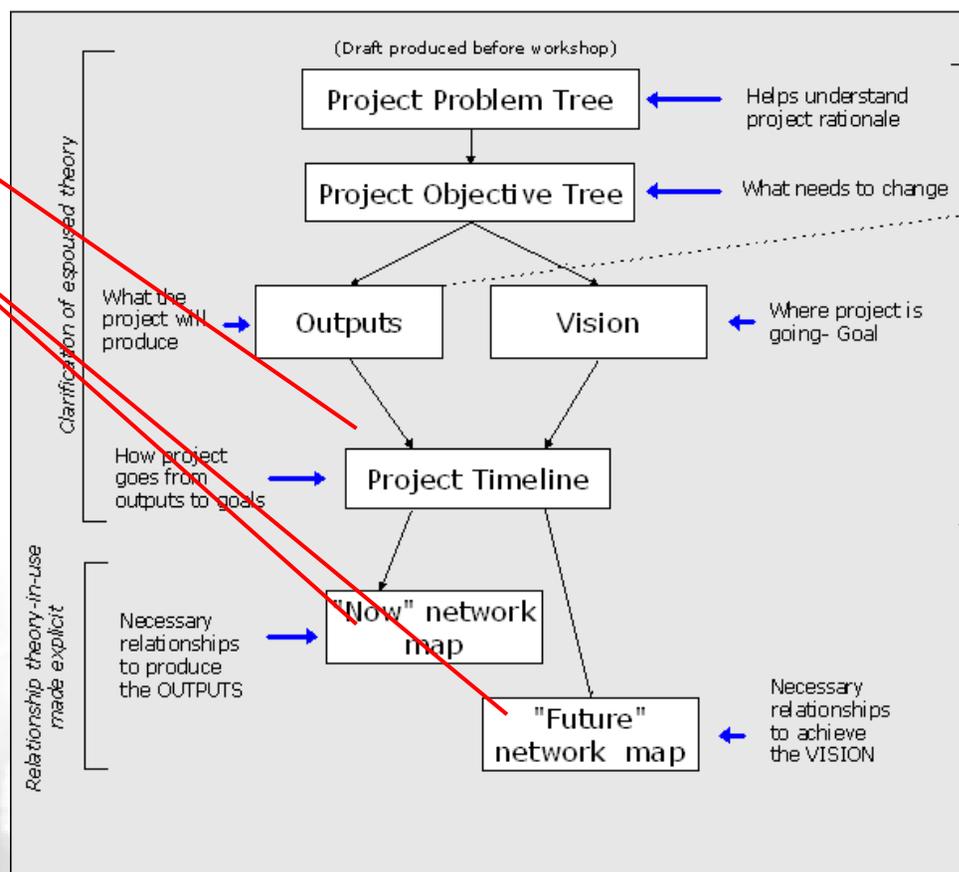
- sustained and equitable sectoral change requires development and application of skills
- skills shortage (e.g. sub-Saharan Africa)
 - institutional strengthening
 - gender issues
 - technology - e.g. CIT, distance learning
 - biotechnical/socioeconomic
 - skills retention
 - policy/institutional development



impact pathway approach

- theory made explicit
 - timeline
 - network maps

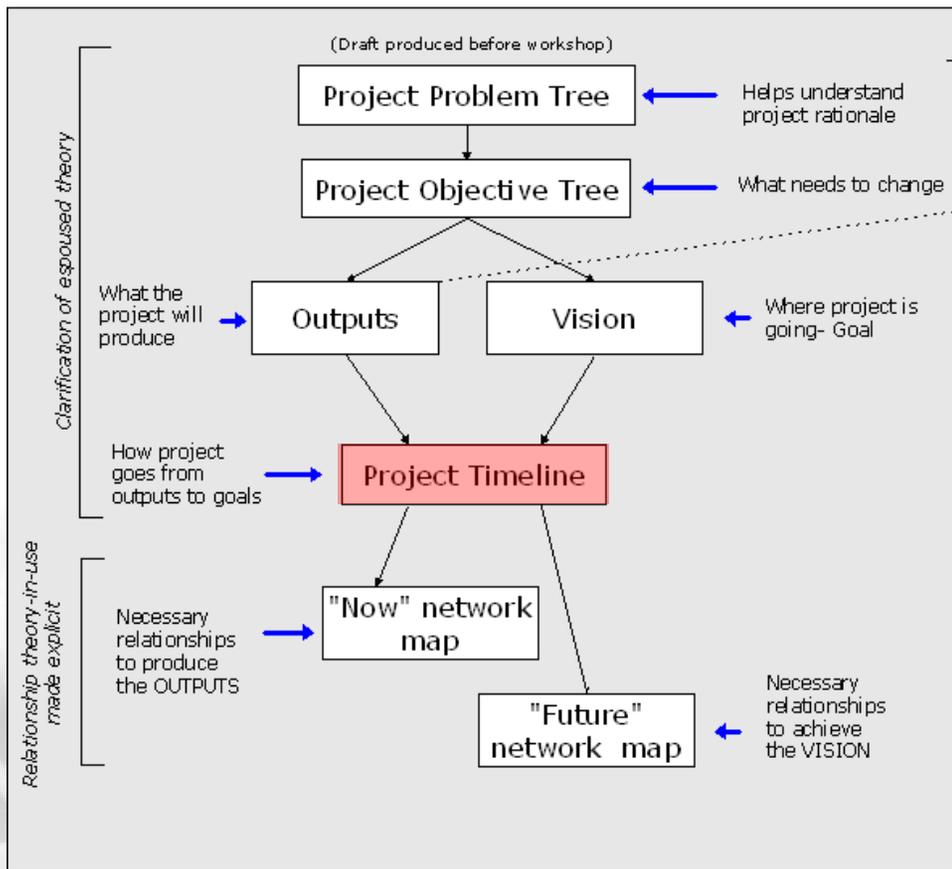
OUTPUTS OF IMPACT PATHWAYS WORKSHOP



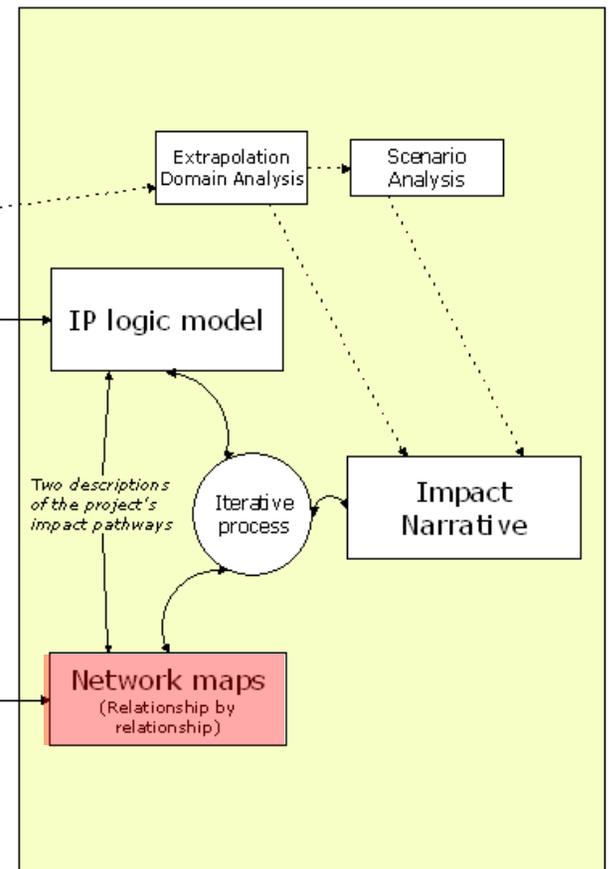
from: <http://boru.pbwiki.com/>

timelines and network maps

OUTPUTS OF IMPACT PATHWAYS WORKSHOP

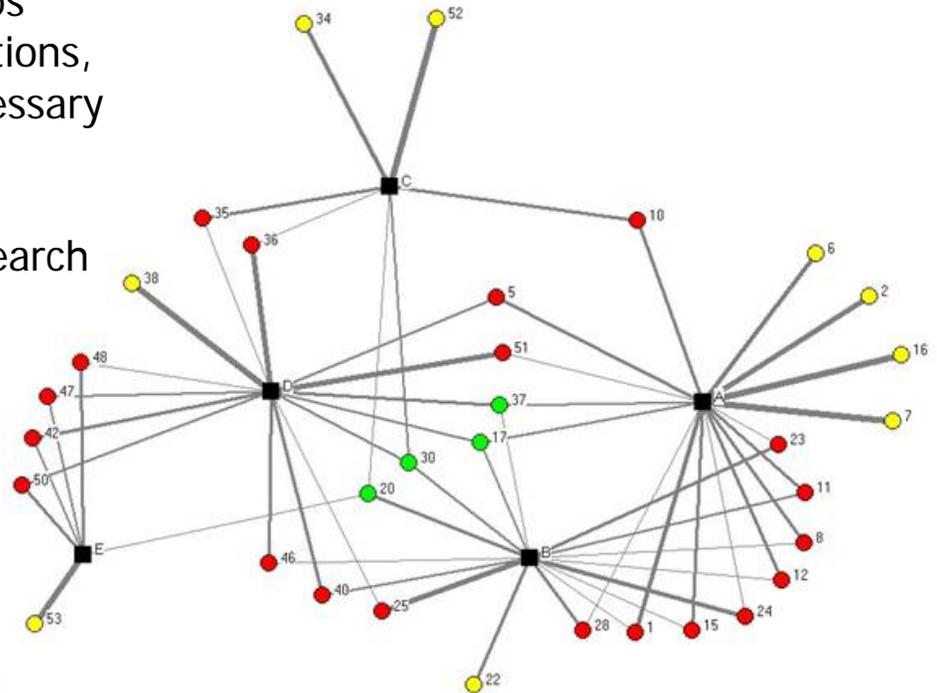


PRODUCTS PRODUCED AFTER WORKSHOP



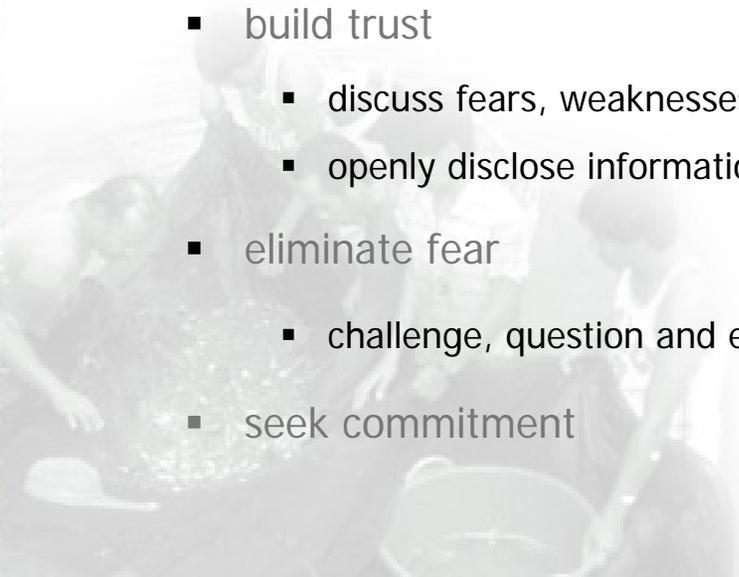
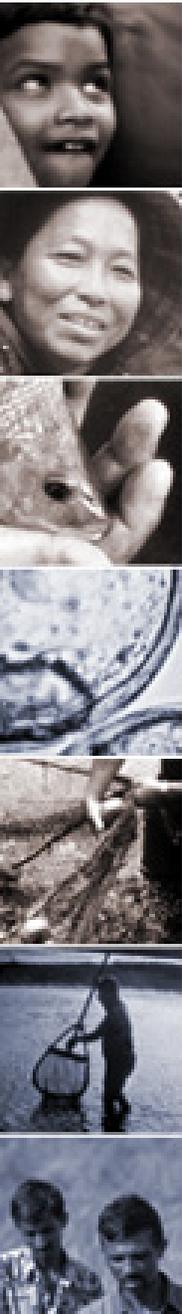
network maps

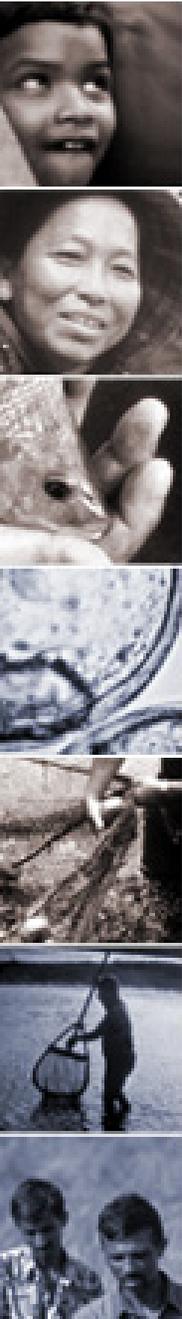
- elucidates evolving relationships among implementing organizations, partners and beneficiaries necessary to achieve goal
- how projects contribute to research themes
 - scaling up and scaling out
 - publish, publish, publish
 - significant tipping points
 - secures funding streams
- high potential interventions (themes)
- projects contributing to themes or partners



implementation - *partnerships*

- WorldFish Center cannot achieve its goals alone
 - a range of partnerships – institutions/individuals; different skills/roles
 - will lead on some areas of research, partner others, champion yet others
 - most impacts occur through the influence of others
- our view of partnerships
 - build trust
 - discuss fears, weaknesses, doubts, etc.
 - openly disclose information, views, etc.
 - eliminate fear
 - challenge, question and even disagree to find the best answers
 - seek commitment



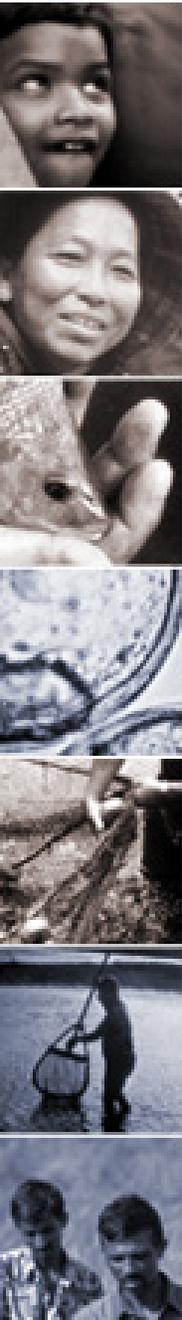


WorldFish and aquaculture research in Africa



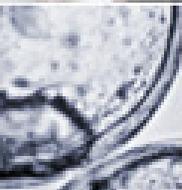
goal

‘to help double aquaculture production in Africa by 2015 in a sustainable manner that delivers improved livelihoods and nutrition for poor people’



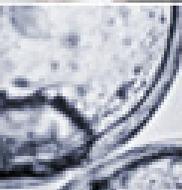


- AU/NEPAD Action Plan for the Development of African Fisheries and Aquaculture
 - March-July 2005 NEPAD-*Fish for All* regional consultations identify priority areas for research, development and policy
 - August 2005 NEPAD-*Fish for All* Summit adopts Action Plan and Abuja Declaration
 - 2006 NEPAD FISH launched as a partnership between AU, NEPAD, FARA and the WorldFish Center to catalyse support for the Action Plan and guide implementation
- further stakeholder agreements in Africa will be through NEPAD
- goal consistent with AU/NEPAD Action Plan



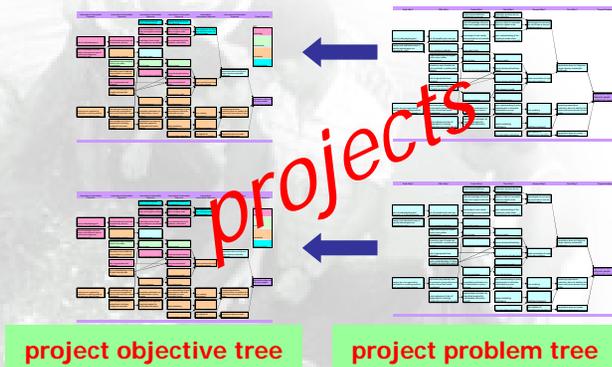
NEPAD FISH Action Plan

- develop sector-wide strategies at national level to expand and intensify aquaculture
- support priority aquaculture zones
- encourage private sector investment across the sector
- apply proven technologies to increase production
- maintain the competitive advantage that Africa's environment provides for aquaculture
- harness opportunities for the development of SMEs
- support emerging regional trade in aquaculture products
- harness the opportunities of expanding export markets for high value products, thereby increasing investment in aquaculture production and processing
- expand integrated small-scale aquaculture to increase rural productivity and food security
- exploit the potential of aquaculture production to contribute to food security

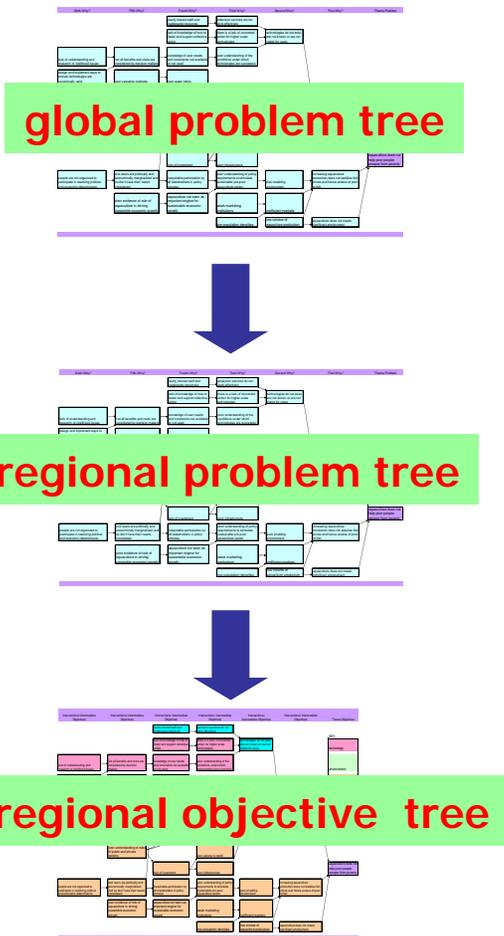


impact pathway models - *regional*

- carry out pathway and network analysis at regional / national levels
- workshop with all partners/stakeholders
 - determine key interventions
 - determine outputs
 - develop timeline
 - develop impact logic model

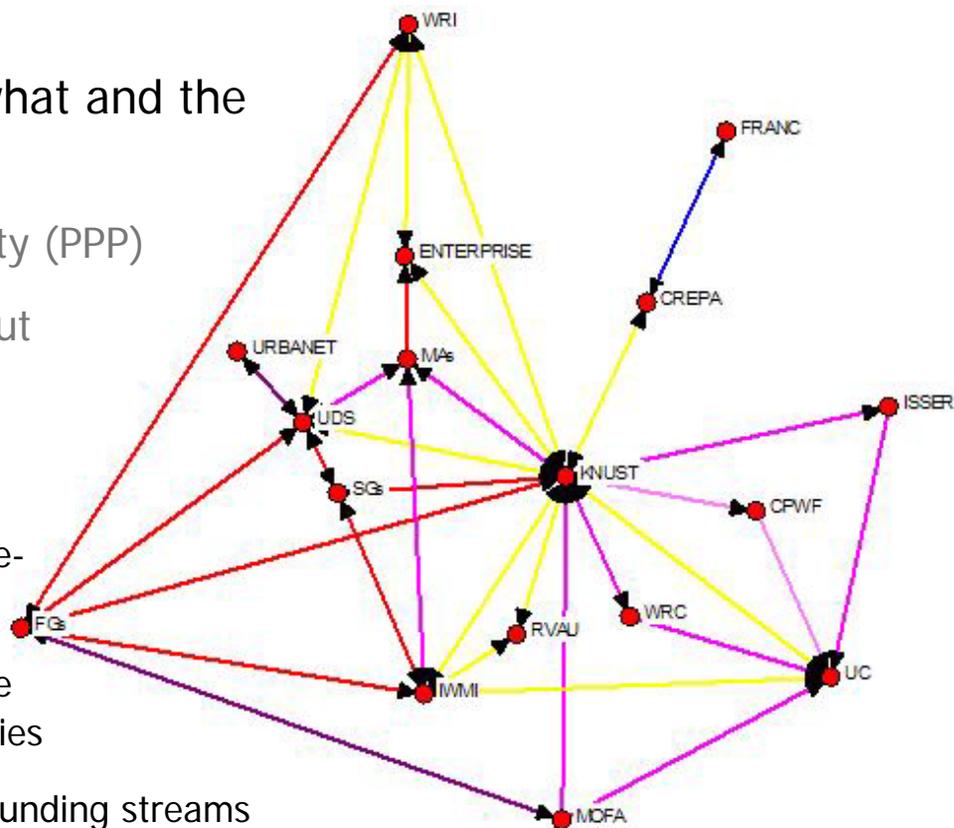


etc.



network analysis – *regional, project*

- elaborate with partners
- establishes who can do what and the impacts
 - private/public/civil society (PPP)
 - scaling up and scaling out
 - impacts
 - monitor and evaluate
 - adjust targets and time-lines
 - collect and disseminate significant change stories
 - expand and maintain funding streams



summary

