Evaluating the impact of capacity building by ACIAR

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Definitions and Difficulties

- **Gordon and Chadwick definition:**
  - 'building human capital in the form of 'the understanding, skills and knowledge base of individuals and institutions'.
- **Jointness**
- 'evaluation of capacity-building generally stops at assessing the capacity built (skills gained) and only occasionally... measures capacity utilised'.
- 'spillover' benefits at best identified qualitatively
- **Future flows of benefits ignored aggregate econometric analyses**

- **Human capital C_t, as 'the understanding, skills and stock of knowledge applicable to the particular environments of the workers and decision-makers (p.15)' and**

- **capacity building as 'encompassing training and all other forms of learning that enhance the knowledge, understanding and competencies (skills) of individuals (p.18)'.**

Capacity Building in ACIAR

- **Mentoring: during the lifetime of projects**
- **Workshops and seminars on specific topics.**
- **Master Classes: theoretical training with practical exercises in partnership with the Crawford Fund**
- **John Dillon Fellowships: Research management training and exposure thru 6 week study tours**

(8-10)

- **John Allright: Masters and PhD studies to enhance research capacity in partner country institutions**
- **Within project graduate study**

Our Scoping Study

- **objective of identifying where further research into assessing the ACIAR's contribution to capacity building and its impact might best be directed.**

- **focus on forestry and fisheries projects funded by ACIAR in two research institution in Vietnam: the Research Institute for Aquaculture No 1 (RIA 1) and Forest Science Institute of Vietnam (FSIV**

Objectives of Case Studies

- Refine methods of approx'ing In in CB;

- Revisit IASs in case study institutions to assess CB

- Develop systematic cost effective processes to report on CB;

- Tracer study of JAFs to more clearly link capacity built with capacity utilised;

- Assess institutional CB in 2 case study institutions

$$PROF = \frac{P}{W}\frac{Q}{X} = TT \times TFP$$

TT	**Terms of trade**	**P/W**
TFP	**Total Factor productivity**	**Q/X**
PQ	**Total Revenue**	
WX	**Total Expenditure**	
PROF	**Profitability**	

$$\left(IK_t, \mathrm{IC}_t, \mathrm{IL}_t, \mathrm{IJ}_t, IZ_t \right) = i\left(R_t, ..., R_{t-L_R}, E_t, ..., E_{t-L_E}; \quad K_t, C_t, \mathrm{L}_t, J_t, Z_t \right)$$

- **R is research and E is extension expenditure**
- **K is knowledge stock available to farmers**
- **C is human scientific capacity**
- **L is stock on scientific knowledge (in store)**
- **J is stock of knowledge of farm policy makers**
- **Z is stock of knowledge of science managers**

- **I   increments to these knowledge stocks from R and E**

Impact Pathway for ACIAR Activities

- **sometimes directly through increments to, K_t, through advancing the rate of technology development and adoption;**

- **indirectly through additions to the stock of human scientific capacity, C_t, and to the stock of scientific knowledge, L_t,**

- **directly through rural policy settings reflected in J_t but perhaps more through changes in the terms of trade;**

- **indirectly through gains in efficiency in the use of research resources, Z_t through better priority setting for example which are later reflected in K_t.**

$$Q_t = f(X_t, \mathrm{F}_t, W_t, \mathrm{A}_t, \mathrm{J}_t)$$

- **Q   outputs**
- **X   inputs**
- **F   flow of K services to farmers**
- **W   weather and pests**
- **A   flow of services from public infrastructure**
- **J   policy settings**

Jointness is pervasive

- R_t likely adds to both K_t and C_t ;

- Training adds to C_t and often K_t ;

- 'The complementarity of human capital …..with investments in research, technology, physical capital and institutional infrastructure, make evaluation of just the capacity-building investment difficult ;

- Frascati Convention

- No theoretically sound way to overcome jointness

Ways to assess CB impact

- **Returns to R&D analyses**

- **'Tracer' Studies of Capacity built and utilised**

- **Gordon and Chadwick framework attributing a share of total benefits to CB**

- **Brennan and Quade's synthesised relationship between output and CB**

- **Econometric analyses of CB in health and education**

Empirical estimates of value of CB

- **Gordon and Chadwick:**
  - **Pigeonpea 5O% share of benefits; 30:1**
  - **Water M'ment - 0.58% share; 13:1**
  - **Sorghum – 80:1**
  - **Pigs – 40% share; 256:1**
- **Brennan and Quade**
  - **17.3:1**
- **Econometric Studies**
  - **Improved performance explained by CB**
- **Returns to R&D (including CB)**
  - **Sheng et al. - 15 – 30%**
  - **Lindner et al. – 5:1 – 70:1**
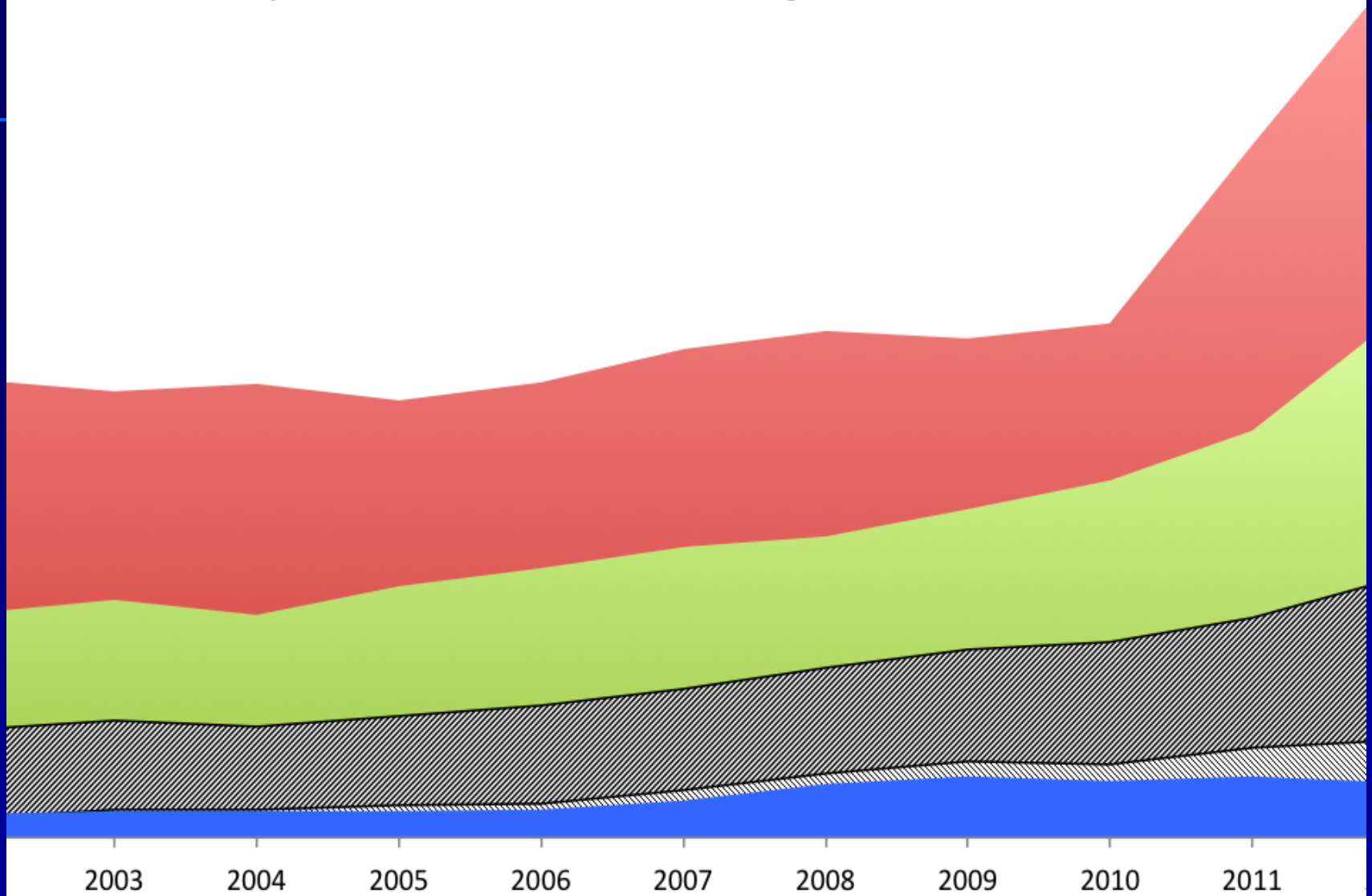
Assessing CB in FSIV and RIA 1

- **Specific training activities identified in project budgets;**

- **Expenditure on formal training through the John Allwright and or John Dillon fellowship schemes;**

- **Informal training including on-the-job training and mentoring.**
  - **Aim was to use ACIAR reciprocal travel records to estimate this**

Legend:
- ACIAR Total Budget
- Total Research Program Budget
- Informal CB in Projects
- Formal CB in Projects
- Education & Training

X-axis: 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011

RIA1

- **10 of 27 fisheries projects at RIA1 +JAFs**

- **Since 2003, $6m in projects**

- **Share of informal CB ranged from 3% to 39%**

- **Total value of CB $2.2m - 1/3**

FSIV

- **10 of 18 forestry projects at FSIV +JAFs**

- **Since 2003, $8.5m in projects**

- **Share of informal CB ranged from 7% to 30%**

- **Total value of CB $4.5m - 1/2**

Implications

- **Jointness is pervasive**
- **Some prospect that In in CB can be approximated from ACIAR records**
- **Existing IAS processes remain important**
  - **Starting point for G&C approach**
  - **Estimate of returns to CB necessarily similar to returns to research**
- **Tracer studies and G&C can be sharpened to focus on evidence of capacity utilised**
- **On starting on assessing institutional CB**