Potential impact of enhanced pulse availability on local human nutrition
About myself

• Agricultural geographer, MSc Univ. of Copenhagen (farming systems, human ecology); PhD Roskilde University Centre (Remote Sensing, Zimbabwe)
• Since 1997: Nepal, since 1999: micronutrients
• Organiser: Micronutrient workshop, Kathmandu 1994
Participants WP 5 – roles?

- CAZS-NR 3 months
- UB + UMB + TU 24 months
- GVT 6 months
- CSKH PAU 6 months
- AAU 6 months
- NARC 8 months
- LI-BIRD 8 months
Justification of nutritional study

• South Asia: from 70 to 30 g pulses available per capita per day 1960-present
• From PEM to Hidden Hunger
• Depletion of soil micronutrients
• Relative price increase of pulses over grain crops: ‘dal is expensive food’
• Demand elasticity
Role of ricebean in Nepalese culture

- Part of *quantee*
- *Dal*
- No taboo, can be eaten by anyone
- Poor mans’ food
- ’not the best of beans’ – a little hard, no specifically good taste
- Makes you warm in winter
Existing knowledge on nutritional value of ricebean

- **FAO Food and Nutrition paper 20 1982**: Legumes in human nutrition: Ricebean contains 18.5 % protein (!?).


Existing knowledge ctd.


Soaking and sprouting decreases phytate and increases availability of Fe, Zn
Expected findings

• Ricebean can potentially add more protein, Fe, folate in diet
• Primarily in marginal population groups
• Household food security – duration of anikal
• Substantial secondary benefits – nitrogen fixation, erosion control, animal fodder – more important than primary effects?
Intercropping with maize
Nutrition assessment – present knowledge

- Poor knowledge on adequacy of Asian diets
- Food balance sheets: crude statistics, only calories and protein
- Poor breakdown on social groups
- Case studies on selected groups, limited range of parameters
Suggested strategy

- Dietary recall studies, intra-family - typologies
- Re-analysis of (some) ricebean nutritional factors – different varieties?
- WorldFood2: calculating risk of inadequacy of diet
- Problem: instruction and labour demanding; determination of target groups
- DALY – try to avoid
Use existing statistical data – plan B

NSSO, India
120000 households, 30 days consumption,
140 different foodstuffs, socially and geographically stratified
+ WorldFood2 = statistically well founded adequacy analysis

Problem: Representative for Nepal?, Data processing demanding
Possible toxicity, an ethical issue

- Aflatoxin: ricebean vulnerable?
- Allergens: notably soybean, groundnuts
- Cyanogens: notably Lima bean, some in cowpea, field pea
- Favism: fafa bean
- Lathyrisim: lathyrus pea
- Lectins: has been tested in ricebean, no effect found