



REFERENCES

- Abel- Salam, and Abdel- Fattah M. 1977. Prevalence and morbidity of *Schistosoma haematobium* in Egyptian children. American journal of Tropical medicine Hygiene 26 463 - 469.
- Abel-Smith, Brian, and Ajay, Dua 1988. The potential of community financing of the health sector in developing countries. Health policy and planning: 3(2): 95 - 108.
- Alejandro N. Herrin. 1986. A social economic analysis of Schistosomiasis: Consequences, transmission and demand for treatment: A progress report. Paper presented for the 29th SEAMEO - TROPMED seminar on social and economic research in tropical diseases in Southeast Asia, Kuala Lumpur, June 16 - 19.
- Ali, M.I and Byskov J. 1986 Simplified data collection and analysis in a *Schistosoma mansoni* endemic area. Tropical medical parasitology 37 215 219.
- Barbosa, F.S and Pereira da costa 1981: Incapacitating effects of *Schistosoma mansoni* on the productivity of sugar cane cutters in North eastern Brazil. American journal of epidemiology no. 114 pp 102 - 111.
- Carrin, Guy 1987. Community financing of drugs in Sub Saharan Africa. International Journal of Health planning and management, voi 2, 125 - 145.
- Collins, K.J, Brotherhood J.R, Davies C.T, Dore A. J, Hackett F.J, Imms J, Musgrove, J. Weiner, J.S Amin, M.A. Awad El karim, M.A Ismail, H.M Omer A.H , and Sukkar M.Y, 1976 Physiological performance and work capacity of Sudanese sugar cane cutters with *Schistosoma mansoni* Infection. American journal of tropical medicine hygiene 25 410 - 421.
- Cook, J.C, Baker K., Warren S. and Jordan P 1974. A controlled study of morbidity of *Schistosoma mansoni* in ST Lucia children, based on quantitative egg excretion. America. Journal tropic. med. Hyg. 23 625 - 633

- Davidson, R.K 1985.: Incapacitating effects of schistosoma mansoni on the productivity of sugar cane cutters in North eastern Brazil. America. Journal of epidem. 121 (1985) 476.
- Doll, J. P and Orazen, F 1984. Production economics, theory and applications second ed. John Wiley & Sons, New York pp 20 -203
- Dunlop, J.T. and Diatchenko, V.P 1964 Labour productivity. Havard University press New York pp 12 - 35.
- El Takir, M. and Mahram, H.1986 The effects of health on agricultural labor supply: A theoretical and empirical investigation. In, N.H. Aladandro and Patricia Rosenfield (ed). Economics, Health and Tropical diseases. University of Phillipines, Manila.
- Fenwick, A. and Figenschou B.H 1972 The effects of Schistosoma mansoni infection on the productivity of cane cutters on a sugar estate in Tanzania. Bulletin of WHO no 47 pp 567 - 572.
- Forster R. 1967.: Schistosomiasis on an irrigated estate in East Africa. The effects of asymptomatic infection on health and industrial efficiency. J. trop . Med Hyg. 70 185 -195.
- Forsyth, D. and Bradley J.D 1966.: The consequences of bilharziasis: Medical and Public health importance in Northwest Tanzania. Bull.wld Hlth Org. 34 715 - 735.
- Frisch, R 1965 . Theory of Production. Oslo University. pp 14-78
- Gabone, R.M. 1987 The morbidity effects of schistosomiasis mansoni in an endemic community of Kome Island of Lake Victoria, Tanzania (Unpublished).
- Ghana health assessment project team 1981.: A quantitative method of assessing the health impact of different diseases in less developed countries. Int. Journ. Epidem. 10 1981; 73 - 80.

Guthrie, H.W 1966. Statistical methods in economics,
University of Illinois USA pp 253 - 272.

Guyatt, H.L and Evans D. 1992 Economic considerations for
Helminth control : Parasitology today vol.8 no.12

Kaewsonthi Somkid, and Harding Alan. 1992. Starting,
managing and reporting research. Chulalongkorn
University press. Bangkok.

MOH 1985. Annual report (Tanzania)

Pratten, C.F. 1976 Labour productivity differentials
within International companies. Cambridge
University press London pp 1 - 49

Rifkin, S.B Rapid appraisal 1992: Qualitative versus
quantitative methodologies. Proceedings from the
7th symposium on interdisciplinary research in
tropical medicine. Trop med parasitology 43.
292 -293.

Rosenfield, Patricia 1986. Linking theory with action: The
use of social and economic research to improve
the control of tropical parasitic diseases. Paper
presented for the 29th Seameo-Tropmed seminar
Kuala Lumpur, 16 - 19 June 1986.

Rugemalila, J.B. 1992. The estimates of direct and
indirect costs of schistosomiasis morbidity in
Tanzanian Mainland. The 9th Annual Joint NIMR
scientific conference, Arusha

Shaw, R.P. and Elmendorf, A.E. 1993. Better Health in
Africa, Technical Department of Human Resources
and Poverty Division Technical Working Paper No
7. World Bank.

Tanner, M. 1989. Evaluation of public health importance
of schistosomiasis. Tropical medical parasitology
40 143 - 148.

WHO 1993. Public health impact of Schistosomiasis:
morbidity of disease and mortality, WHO technical
report series 71(6):657-662.

WHO 1995. The control of Schistosomiasis, WHO technical
report series 830

Wright, W.H 1972 A consideration of the economic impact
of Schistosomiasis Bulletin of WHO no. 47, pp
559 - 566.

APPENDIX I HOUSEHOLD QUESTIONNAIRE

INTRODUCTION:

We are medical officers from the National Institute for Medical Research, Mwanza Centre. We are here to study the major health problems faced by your community, but for this time we would like to concentrate on the disease called Schistosomiasis.

We have heard that, this disease has been troubling your community for many years, and several attempts have been made by your local leaders to seek for government attention but all have proved in vain. This team is here to investigate the economic consequences of this parasitic disease given absence of any control measures. Thus, we would be grateful if you could provide us with the answers for the questions we are going to ask you. The questions are mainly focused on the economic costs associated with Schistosomiasis morbidity and the effects of the disease on the people's participation in economic activities. The findings of this research will be used by the Ministry of health to convince the Government to initiate schistosomiasis control programme on your community. Please, feel free to answer our questions and we assure you that, your answers are confidential.

Interviewer code no. ####
Time started

Time finished

SECTION A. BACKGROUND INFORMATION

1. (i) Household no. ###
(ii) Household member no. ####
(iii) How many people do you live in this household?
.....
(iv) How old are you? ##
(v) Sex F / M
2. Have you been to school?
 - (a) Yes
 - (b) No
3. What is your education

- (a) Standard 1 - 4
- (b) Standard 5 - 7/8
- (c) Form 1 - 4/6
- (d) Above form 6
- (e) Adult education
- (f) I didn't go to school

4. What is your current occupation?

- (a) Student
- (b) Peasant
- (c) Business
- (d) Fishing
- (e) Employed job
- (f) Others

5. Which additional activities (small scale) apart to that specified in no.4 you are undertaking so as to increase your earnings?

- (a) Skilled handicraft activities
- (b) Selling of local brew
- (c) No additional activities
- (d) Others(specify)

SECTION B: ABOUT SCHISTOSOMIASIS MORBIDITY, ECONOMIC COSTS AND LABOUR PRODUCTIVITY LOSS.

6. How long have you lived in this household?

- (a) Less than six months
- (b) Six months
- (c) One year
- (d) More than one year

7. Have you ever been sick for the past two months?

- (a) Yes
- (b) No

8. Did you suffer from any of the following diseases, during that period?

- (a) Diarrhoea
- (b) Stomach ache
- (c) Schistosomiasis
- (d) Malaria
- (e) Others

9. Do you know a disease called schistosomiasis?
(a) Yes
(b) No
10. Have you ever been treated for this disease in the past two months?
(a) Yes
(b) No
11. where did you get medical services to treat Schisto?

(a) Health centre
(b) District hospital
(c) Self treatment
(d) Others (specify)
12. Which drugs did you use?
(a) Praziquantel
(b) Metrifonate
(c) Oxamniquine
(d) I don't know
(e) Others
13. Did you get better with that drug?
(a) Yes
(b) NO
14. How much did it cost you?
.....
.....
- 15 . After improving, have you felt the same problems again?

(a) Yes
(b) No
16. Do you get lab test for stool examination each time you have Schisto problem?
(a) Yes
(b) No
(c) Sometimes

17. How much did you pay for a single lab test?

18. How much did you pay for consultation fees?

19. (i) Do you purchase any food, while you are away seeking treatment at the health facility?

(a) Yes

(b) No

(ii) How much does it cost for one person?

20. How many people from your house accompany you to the health facility when seeking treatment for Schisto?

(a) One

(b) Two

(c) None

(d) Others (specify)

21. How far is the health facility where usually Schisto treatment is being sought?

(a) Less than 1 km

(b) 1 km

(c) More than 1 km

22. Which means of transport do you use when seeking treatment at the health facility?

(a) On foot

(b) Bicycle

(c) Bus

(d) Other means (specify)

23. How much do you pay as fare?

24. When visiting a health facility to seek medical treatment, how many people accompany you?

(a) one

(b) two

- (c) More than two people
- (d) None

25. How long did you take to recover from sickness

- (a) Days
- (b) Weeks
- (c) Months
- (d) Year

26. During the sickness period, how long did you miss to participate in your daily economic activities?

- (1) Days
- (2) Weeks
- (3) Months
- (4) Year

27. How many hours do you spend out of work, each time you seek treatment for Schisto?

.....

28. If you were not sick at that day, what activities would you have performed?

- (a) Working in the farm
- (b) Fishing
- (c) Wood cutting
- (d) Others (specify)

29. How much work of that activity identified in Q.23 you would have done?

- (a) Bags of products
- (b) Tonnes of fish
- (c) Tonnes of wood
- (d) Others (specify)

In this question an interviewer should try to get more

clarifications so as to get appropriate estimate of output lost while seeking treatment.

30. What kinds of agricultural crops do you plant?

- (a) Paddy
- (b) Cotton

- (c) Banana
- (d) Vegetables
- (e) Others (specify)

31. What are the symptoms for the person who has been infected with Schisto?

- (a) Abdominal pain
- (b) Fatigue
- (c) Fever
- (d) Others (specify)

NB: If a household member can manage to mention a minimum of two symptoms, this will be a criterion for good understanding of the symptoms of Schistosoma mansoni.

32. How can you recognize a person with serious Schistosoma mansoni?

- (a) Liver enlargement (hepatomegaly)
- (b) Portal hypertension
- (c) Gastro intestinal bleeding
- (d) Others (specify)

NB: If a household member can manage to pinpoint at least two symptoms, this will be regarded as a good knowledge of the serious health effects of Schisto.

33. How many bags of paddy/cotton do you harvest, when you are healthy?

.....

34. How many bags of paddy/cotton do you harvest, when you are infected with Schisto?

.....

35. How many bags of Paddy/cotton do you harvest when you have developed serious symptoms of Schisto? (morbidity)

.....
.....

NB: In order for household members to provide accurate estimate of the amount of work done in their different health status, interviewer should discuss with them more deeply so as to understand their units of measurement.

SECTION C: PERCEPTION REGARDING THE POTENTIAL
CONSEQUENCES OF SCHISTOSOMIASIS.

STATEMENTS	PERCENT OF RESPONSE	
	AGREE	DISAGREE
<u>(I) Pain and social interaction effects.</u>		
1. An infected person is likely to suffer severe and recurrent pain and discomfort.		
2. Most people look down to someone with schisto		
3. Most people will tend to avoid an infected person or his home if possible.		
4. Schistosomiasis infection of a household member will be a serious blow to the social status of the family.		
5. Infected school children are discriminated against and shunned by their teachers and class mates.		
6. An infected person's chances that someone would want to marry him/her is affected.		
<u>(II) Short term market production effects</u>		
1. A person with Schistosomiasis is able to work as hard as one who does not have schisto.		
2. A person with schisto can finish the same amount of work as fast, and as well as someone without it.		
3. Fewer people will hire a person with schisto		
4. Infection of a household head is not likely to seriously affect household output.		
5. The household's standard of living is not likely		

to be affected by schisto infection of members.

(III) Short term non market production

1. An infected mother is less able to do household chores.
2. Infected school children are likely to miss class attendance for many days than uninfected ones.
3. Infected school children are likely to get lower grades than non infected school children.

(IV) Long term effects

1. An infected person is likely to live as long as someone without infection.
2. A young man's ability to make progress in life is hampered if he is infected with schisto.
3. Success in life for infected school children is minimal compared to uninfected ones.

APPENDIX II SCHOOL CHILDREN QUESTIONNAIRE

SECTION A: BACKGROUND INFORMATION

1. School no. ###
2. Pupil's name
3. Sex F/M
4. How old are you?
.....
5. Which class do you study?
 - (a) Std I - III
 - (b) Std IV
 - (c) Std V
 - (d) Std VI - VII

SECTION B: ABOUT KNOWLEDGE OF THE DISEASE

6. Have you ever been sick for the past six months?
 - (a) Yes
 - (b) No
7. What was the problem?

- (a) Schistosomiasis
- (b) Abdominal pain
- (c) Diarrhoea
- (c) Malaria
- (d) Others (specify)

8. Do you know the disease called Schistosomiasis?

- (a) Yes
- (b) NO

9. Have you suffered from this disease in the past six months?

- (a) Yes
- (b) No

10. What are the symptoms for the person who has been infected with Schistosomiasis?

- (a) Abdominal pain
- (b) Fatigue

- (c) Fever
- (d) Others (specify)

NB: If a pupil can manage to mention a minimum of two symptoms, this will be a criterion for good understanding of the symptoms of Schistosoma mansoni.

11. How can you recognize a person with serious Schistosoma mansoni?

- (a) Liver enlargement (hepatomegaly)
- (b) Portal hypertension
- (c) Gastro intestinal bleeding
- (d) Others (specify)

NB: If a pupil can manage to pinpoint at least two symptoms, this will be regarded as a good recognition of the serious effects of Schisto.

SECTION C: ABOUT SCHOOL ATTENDANCE AND CLASS GRADES

12. How often have you been absent from school, due to sickness in the past two months?

.....
.....

13. What was the problem?

- (a) Schisto
- (b) Abdominal pain
- (c) Malaria
- (d) Diarrhoea
- (e) Others (specify)

14. How often did you miss to attend classes because of the health problem pointed in Q 13?

- (a) Days
- (b) Weeks
- (c) Months

15. How often have you been absent from school, due to Schisto in the past two months?

.....
.....

16. How often did you miss to attend classes, when you was suffering from Schisto?

- (a) Days
- (b) Weeks
- (c) Months

17. What was your average class grade in the first semester?

- (a) More than 80%
- (b) 80%
- (c) Between 79% - 50%
- (d) Less than 50%

18. What was your average class grade in the second semester?

- (a) More than 80%
- (b) 80%
- (c) Between 79% - 50%
- (d) Less than 50%

19. Which position did you stand, for the final examination in your class?

.....

20. What do you think contributed, for your performance?

.....

CURRICULUM VITAE

NAME : MR NASSOR SAID KIKUMBIH

DATE OF BIRTH : 2ND JUNE 1965

PLACE OF BIRTH : TABORA (UNITED REPubL. OF TANZANIA)

NATIONALITY : TANZANIAN

RELIGION : ISLAM

MARITAL STATUS : SINGLE

LANGUAGES : SWAHILI AND ENGLISH

EDUCATIONAL QUALIFICATION : BA (Econ.)

PLACE OBTAINED : UNIVERSITY OF DAR ES SALAAM, 1991

PRESENT EMPLOYMENT : NATIONAL INSTITUTE FOR MEDICAL RESEARCH
MWANZA RESEARCH CENTRE
P. O BOX 1462
MWANZA, TANZANIA.

TELEFAX : 255 068 41726

TELEPHONE : 255 068 50399

PRESENT POST : RESEARCH SCIENTIST (HEALTH ECONOMICS)

EXPERIENCE : CONDUCTING RESEARCHES RELATED TO
ECONOMICS, FINANCE AS WELL AS HEALTH
ECONOMICS.

