

Les séminaires



# **THE BUILDING OF SOCIAL CAPITAL IN RURAL COMMUNITIES THROUGH A DEVELOPMENT PROJECT**

## **A LAB-IN-THE-FIELD ANALYSIS IN THE LIMPOPO PROVINCE OF SOUTH AFRICA**

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**IN COLLABORATION WITH:  
AWARD AND UKUVUNA**

**TUESDAY 21 APRIL 2020**

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# BACKGROUND AND RATIONALE

- **SOCIAL CAPITAL** AS « FEATURES OF SOCIAL ORGANIZATION SUCH AS NETWORKS, NORMS, AND SOCIAL TRUST THAT FACILITATE COORDINATION AND COOPERATION FOR MUTUAL BENEFIT » (PUTNAM 1995)
- **RECENT HISTORY** OF SOUTH AFRICA (APARTHEID, FORCED RESETTLEMENTS, BANTUSTANS, ETC.)
- PARTICULARLY IN **RURAL AREAS**, CONDITIONS FOR SOCIAL CAPITAL ARE POOR
- '**STOCK OF SOCIAL CAPITAL LOW**' (MALUCCIO ET AL. 1999; CARTER & CASTILLO 2011)
- RACIAL STEREOTYPES, **LOW INTERPERSONAL AND COMMUNITY TRUST WITHIN BLACK COMMUNITIES** (BURNS 2006)
- IN THE US, **FACTORS STRONGLY ASSOCIATED WITH LOW TRUST** (ALESINA & LA FERRARA 2002)
  - BELONGING TO A GROUP THAT HISTORICALLY FELT DISCRIMINATED (MINORITIES, BLACKS IN PARTICULAR)
  - BEING ECONOMICALLY UNSUCCESSFUL IN TERMS OF INCOME AND EDUCATION
  - LIVING IN A RACIALLY MIXED COMMUNITY AND/OR IN ONE WITH A HIGH DEGREE OF INCOME DISPARITY.
- **LIMPOPO**, RURAL AREAS PARTICULARLY POOR, LIVELIHOOD BASED ON MINING ACTIVITIES AND REMITTANCES/STATE PENSIONS (MATHEBULA, 2017; MTERO, 2017)

# RESEARCH QUESTION

DOES A DEVELOPMENT PROJECT INFLUENCE THE SOCIAL CAPITAL OF RURAL COMMUNITIES THAT TAKE PART IN THE PROJECT?

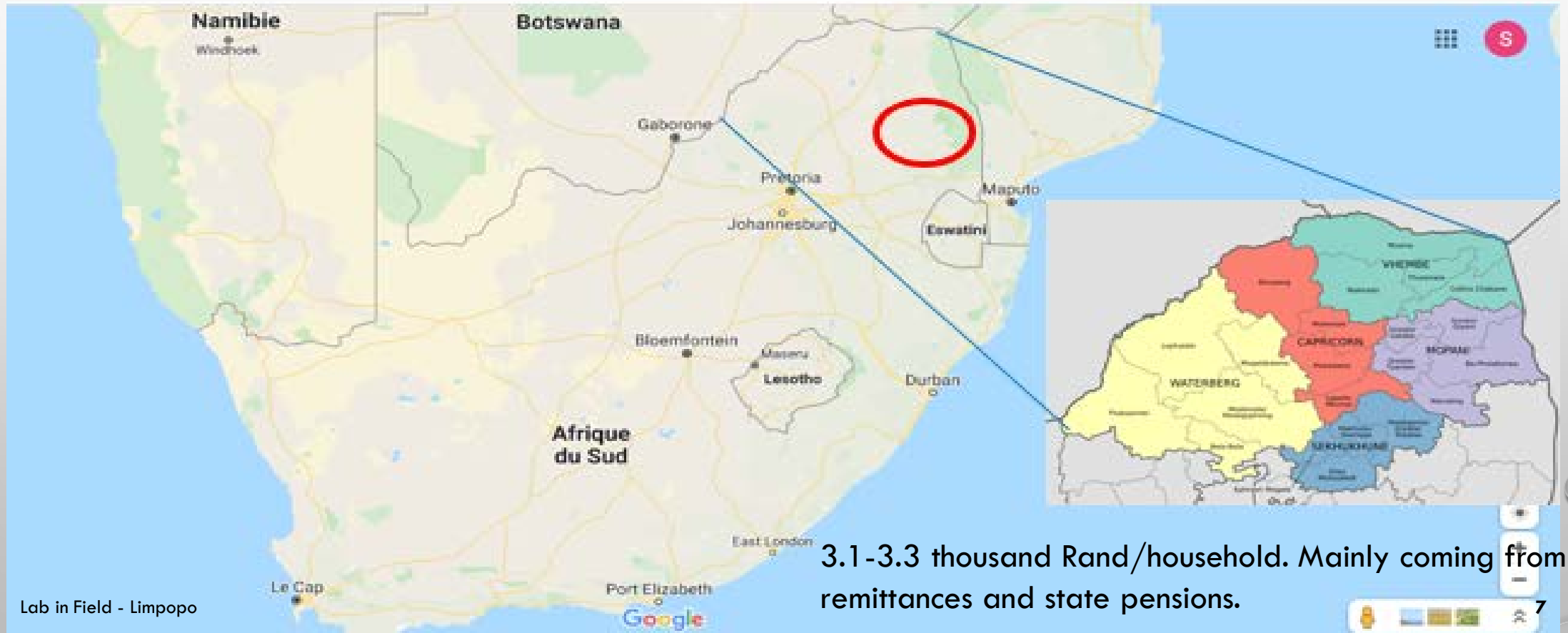
# MEASURING SOCIAL CAPITAL

- MOST EX-POST STUDIES ON THE IMPACT USE **RETROSPECTIVE SURVEYS** TO MEASURE THE IMPACT OF DEVELOPMENT PROJECTS ON SOCIAL CAPITAL. ISSUE OF **BIAS OF RESPONDENTS WANTING TO GIVE THE RIGHT ANSWER** (HAWTHORN EFFECT) (MANSURI AND RAO, 2013).
- FEW STUDIES HAVE ANALYSED **THROUGH LAB-IN-THE-FIELD EXPERIMENTS THE IMPACT OF DEVELOPMENT PROJECTS ON SOCIAL CAPITAL** (ATTANASIO ET AL., 2015; ADVEENKO AND GILLIGAN, 2014)
- ANALYSIS OF NETWORKS; LAB IN THE FIELD; SURVEY
- FOLLOWING ADVEENKO AND GILLIGAN, WE USE **5 GAMES TO TEST IN A CONTROLLED ENVIRONMENT 5 ATTRIBUTES OF PRO-SOCIAL BEHAVIOUR**: PRECONDITIONS FOR SOCIAL CAPITAL.

# HYPOTHESES

- H0 - A DEVELOPMENT PROJECT IMPROVES SOCIAL CAPITAL IN THE LOCAL COMMUNITY INVOLVED
- SOCIAL CAPITAL MADE UP OF SEVERAL ATTRIBUTES (**SOCIAL PREFERENCES**), SPECIFIC HYPOTHESES:
  - H0.1 - **ALTRUISM** WILL BE IMPROVED IN THE COMMUNITY INVOLVED IN THE PROJECT /DICTATOR GAME
  - H0.2 - **TRUST** WILL BE IMPROVED IN THE COMMUNITY INVOLVED IN THE PROJECT/ TRUST GAME
  - H0.3 - **RISK AVERSION** WILL BE REDUCED IN THE COMMUNITY INVOLVED IN THE PROJECT/BRET GAME
  - H0.4 - **COOPERATION** WILL INCREASE IN THE COMMUNITY INVOLVED IN THE PROJECT/PG GAME
  - H0.5 – **IMPATIENCE** OF PARTICIPANTS WILL DECREASE (PRESENT BIAS) / TIME PREFERENCE GAME

# STUDY AREA



# THE DEVELOPMENT PROJECT

- **THE AGRICULTURAL SUPPORT INITIATIVE**
  - INITIATED IN 2016 WITHIN A LARGER PROGRAMME CALLED RESILIENCE IN THE LIMPOPO RIVER BASIN (**RESILIM**)
  - FUNDED BY USAID
  - IMPLEMENTED BY NGO: AWARD AND UKUVUNA
- THE OBJECTIVE OF THE PROJECT IS TO **IMPROVE THE RESILIENCE AND ADAPTATION OF SMALL-SCALE FARMERS TO THE IMPACTS OF CLIMATE CHANGE.**
- RECIPIENTS:
  - HOUSEHOLDS FROM **9 VILLAGES IN THE LIMPOPO PROVINCE**
  - CAPRICORN DISTRICT, RURAL AREA OF HOEDSPRUIT (ABOUT 1000 HOUSEHOLDS EACH). ABOUT 40 HOUSEHOLDS 'TREATED' BY THE PROJECT.
  - SEKHUKHUNE AREA ARE ALSO PART OF THE PROJECT, BUT WE DO NOT CONSIDER THEM IN OUR EXPERIMENT.
- FARMERS (NODES) ARE GROUPED IN **CLUSTERS**, LED BY A **CLUSTER LEADER** (CL), IN CONNECTION WITH A **CLUSTER COORDINATOR** COMING FROM UKUVUNA.
- GROUPS OF VILLAGES JOINED THE PROJECT AT DIFFERENT MOMENTS (IMPORTANT FOR THE ANALYSIS)



# MEASUREMENT

- WE CONDUCT FIVE GAMES TO MEASURE SUBJECTS' PREFERENCES FOR PRO-SOCIAL BEHAVIOR:
- (1) WILLINGNESS TO SHARE WITH THE NEEDY (DICTATOR GAME),
- (2) TRUST AND TRUSTWORTHINESS (TRUST GAME),
- (3) WILLINGNESS TO CONTRIBUTE TO A COLLECTIVE GOOD (PG GAME),
- (4) ATTITUDES TOWARD RISK (BRET GAME), AND
- (5) DISCOUNT RATES (TIME PREFERENCES GAME).

# DICTATOR GAME

- DEVELOPED TO MEASURE PEOPLE'S ALTRUISM AND FAIRNESS ([FORSYTHE ET AL., 1994](#), [KAHNEMAN ET AL., 1986](#))
- IN THE SIMPLEST VERSION : ONE-SHOT ; TWO-PERSON
- ONE PLAYER, THE **PROPOSER**, IS GIVEN A SUM OF MONEY THAT HE OR SHE CAN – BUT DOES NOT HAVE TO – SHARE WITH ANOTHER ANONYMOUS PERSON, THE **RECEIVER**.
- THE RECEIVER CANNOT
  - REJECT THE OFFER
  - RECIPROCATE OR PUNISH THE PROPOSER'S ACTION
- FOR THE PROPOSER:
  - KEEPING THE MONEY HAS NO NEGATIVE CONSEQUENCES
  - SHARING HAS NO (EVIDENT) SOCIAL GAINS

# Dictator Game

- SELF-INTERESTED PROPOSERS SHOULD NOT GIVE ANYTHING TO THE RECEIVER
- EMPIRICAL RESEARCH WITH ADULTS → GIVE ON AVERAGE 20–30%
- HUMANS NOT ONLY MOTIVATED BY SELFISH BUT ALSO “**OTHER-REGARDING**” **PREFERENCES**
  - *INEQUALITY AVERSION*: PLAYERS DISLIKE BEING TREATED UNFAIRLY BUT THEY WILL ALSO SACRIFICE MONEY TO HELP OTHERS IF THEY THEMSELVES ARE ABOVE THE AVERAGE
  - ONE-SHOT GAME: NOT FEAR OF RETALIATION/PUNISHMENT OR LONG TERM GAINS
  - *INTERNALIZED NORMS* LEAD PEOPLE TO ACT ON THE BASIS OF THESE NORMS EVEN IN SITUATIONS IN WHICH THEY CONTRADICT SELFISH DESIRES
  - THE VIOLATION OF INTERNALIZED MORAL NORMS IS ACCOMPANIED BY SHAME AND GUILT IN THE NORM VIOLATOR.
  - EMOTIONS ARE CRITICAL FOR MOTIVATING PEOPLE TO ADHERE TO **ALTRUISTIC NORMS**.

# TRUST GAME (BERG ET AL. (1995) )

- A *FIRST MOVER* IS RANDOMLY AND ANONYMOUSLY PAIRED WITH A *SECOND MOVER*.
- BOTH ARE GIVEN A MONETARY ENDOWMENT.
- FIRST MOVER MAY TRANSFER SOME OR ALL OF HIS ENDOWMENT TO THE SECOND MOVER.
- THIS TRANSFER IS TRIPLED BY THE EXPERIMENTER AND HANDED TO THE SECOND MOVER
- FINALLY THE SECOND MOVER MAY RETURN SOME OR ALL OF THE RECEIVED TRANSFER.
- FIRST-MOVER TRANSFERS ARE INTERPRETED AS A MANIFESTATION OF **TRUST**
- SECOND-MOVER TRANSFERS AS A MANIFESTATION OF **TRUSTWORTHINESS**

# OUTCOMES?

- IF SUBJECTS HAVE SELF-REGARDING PREFERENCES, THEN GAME THEORY PREDICTS:
  - SECOND MOVERS WILL KEEP ALL OF ANY TRIPLED AMOUNTS TRANSFERRED BY FIRST MOVERS
  - KNOWING THIS, FIRST MOVERS WILL NOT TRANSFER MONEY
- PARETO-INFERIOR
  - LEAVES PAIR WITH \$20 (10/10)
  - COULD PAIR COULD HAVE EARNED UP WITH AS MUCH AS \$40
- EXPERIMENTAL GAMES
  - FIRST MOVERS SEND
  - SECOND MOVERS SEND BACK

# MEASURE TRUST?

- FIRST MOVER MAY BE WILLING TO TRANSFER MONEY TO SECOND MOVER IF HE TRUSTS THAT SOME OF THE TRIPLED AMOUNT TRANSFERRED WILL BE RETURNED → **TRUST**
- SECOND MOVER MAY BE WILLING TO RETURN PART OF THE TRIPLED AMOUNT TRANSFERRED IF SHE IS MOTIVATED BY **POSITIVE RECIPROCITY**
- **PROBLEM:**
  - FIRST MOVER MAYBE WILLING TO MAKE A TRANSFER EVEN IF THERE IS NO OPPORTUNITY FOR THE LATTER TO RETURN ANYTHING (ALTRUISM)
  - SECOND MOVER COULD RETURN BACK BY ALTRUISM AND NOT RECIPROCITY...
- SOLVED WHEN COMBINED WITH DICTATOR GAME
  - JOINTLY IDENTIFY THE TRUSTING BEHAVIOR THAT RESULTS FROM BELIEFS ABOUT OTHERS

# PUBLIC GOOD GAME

- FOUR SUBJECTS FORM A GROUP
- EACH SUBJECT ENDOWED WITH \$10
- EACH SUBJECT DECIDE HOW MANY KEPT FOR HIM.HER / HOW MANY GIVEN TO THE GROUP
- NO ONE, EXCEPT THE EXPERIMENTER, KNOWS OTHERS' CONTRIBUTIONS BUT ALL KNOW THE TOTAL.
- AFTER ALL MEMBERS OF THE GROUP HAVE CHOSEN THEIR CONTRIBUTION
  - TOTAL AMOUNT THAT THE GROUP CONTRIBUTED **DOUBLED**
  - THEN DIVIDED EQUALLY → EACH MEMBER GETS EXACTLY THE SAME PAYOFF FROM THE PROJECT.
- THUS, A SUBJECT MAY RECEIVE A PAYOFF FROM GROUP WITHOUT CONTRIBUTION
- IN OUR CASE: NO REPETITION

# PUBLIC GOOD GAME

- GAME THEORETIC PREDICTION
  - NO ONE WILL CONTRIBUTE ; EACH POTENTIAL CONTRIBUTOR WILL TRY TO "FREE RIDE"
  - DOMINANT STRATEGY: CHOOSE \$0 BECAUSE EACH \$1 CONTRIBUTED YIELDS ONLY \$.50 TO ITS CONTRIBUTOR, NO MATTER WHAT THE OTHERS DO
  - A **SOCIAL DILEMMA** BECAUSE THE GROUP WOULD BE BEST OFF IN SOME SENSE (TAKING HOME \$10 EACH) IF ALL CONTRIBUTED \$5
- EXPERIMENTS:
  - SOME CONTRIBUTE \$5, SOME CHOOSE LESS THAN \$5, SOME CHOOSE 0
  - FULL RANGE OF BEHAVIOR EXISTS FROM FULLY SELFISH TO FULLY ALTRUISTIC



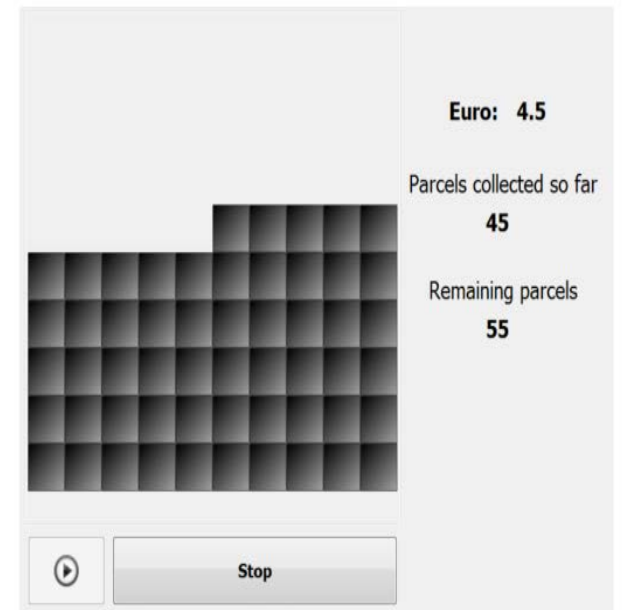
# USUALLY PG GAMES ARE MORE COMPLEX

- REPEATED WITH PUNISHMENTS (FEHR, GÄCHTER (2000))
- REPEATED WITH SYMBOLIC SANCTIONS (PEER PRESSURE) (MASCLET, NOUSSAIR, TUCKER, VILLEVAL (2003))
- SOCIAL APPROVAL (MASUDA ET AL. ,2014)
- LEADERSHIP AND SEQUENTIAL CONTRIBUTION (FIGUIÈRES, MASCLET, WILLINGER (2012))
  
- WHAT IS IMPORTANT FOR US:
  - NO REPETITION
  - COMPARISON OF GROUPS WITH DIFFERENT NO OF YEARS IN THE PROJECT

# BOMB RISK ELICITATION TASK (BRET)

- MEASURING RISK ATTITUDES (CROSSETO & FILIPIN, 2013)
- SUBJECTS DECIDE HOW MANY BOXES TO COLLECT OUT OF 100, ONE OF WHICH CONTAINS A BOMB.
- EARNINGS
  - INCREASE LINEARLY WITH THE NUMBER OF BOXES ACCUMULATED
  - ZERO IF THE BOMB IS ALSO COLLECTED.
- THE BRET
  - REQUIRES MINIMAL NUMERACY SKILLS
  - ALLOWS THE PRECISE ESTIMATION OF BOTH RISK AVERSION AND RISK SEEKING
  - NOT AFFECTED BY THE DEGREE OF LOSS AVERSION OR BY VIOLATIONS OF THE REDUCTION AXIOM.

"How many cells do you want to open?"



	✓			✓	✓		✓
✓		✓					
✓	✓		✓	✓			
	✓			✓		✓	✓
	✓	✓			✓		✓
✓					✓	✓	✓
	✓	✓		✓	✓		✓
	✓	✓		✓	✓		✓

No. of boxes collected: 32  
 No. of boxes remaining: 32

Start Stop Solve

	\$			\$	\$		\$
\$		\$					
\$	\$		\$	\$			
	\$			\$		\$	\$
	\$	\$			\$		\$
\$					\$	\$	\$
	\$	\$		→	\$		\$
	\$	\$		\$	\$	\$	

No. of boxes collected: 32  
 No. of boxes remaining: 32

Next

# IMPATIENCE

For each option choose between “Today” and “In one month”

OPTION	Today	In one month	YOUR CHOICE
1	10	10	
2	10	12	
3	10	14	
4	10	16	
5	10	18	
6	10	20	

# OTHER QUESTIONS

- CONFIRMATION → STATED VS. INCENTIVIZED
  - RISK ATTITUDES
  - TRUST
- ADDITIONAL EFFECTS (AFTER DISCUSSIONS WITH NGO AWARD)
  - PERCEIVED SOCIAL SELF-EFFICACY
  - LOCUS OF CONTROL
  - NOVELTY SEEKING
- DEMOGRAPHICS

# EXPERIMENTAL DESIGN

- EACH SESSION: 12 SUBJECTS / 2 GROUPS; LASTS HALF DAY
- 1 DAY 2 SESSIONS - 8 DAYS IN TOTAL. IN TOTAL:  $12 \times 2 \times 8 = 192$  SUBJECTS.
  - 2 VILLAGES IN THE PROJECT SINCE 2016 ( $2 \text{ VILLAGES} \times 2 \text{ GROUPS/VILLAGE} \times 12$ ) = 48
  - 4 VILLAGES IN THE PROJECT SINCE 2018 ( $4 \text{ VILLAGES} \times 2 \text{ GROUPS/VILLAGE} \times 12$ ) = 96
  - 2 VILLAGES IN THE PROJECT STARTING IN 2020 (NOT YET TREATED) ( $2 \text{ VILLAGES} \times 2 \text{ GROUPS/VILLAGE} \times 12$ ) = 48
- “NOT YET TREATED”
  - CLUSTERS HAVE BEEN FORMED
  - BUT HAVEN’T STARTED TO WORK TOGETHER
  - POTENTIAL ENDOGENEITY ISSUES (THOSE WHO JOIN THE CLUSTER ARE MORE ALTRUIST, ...)
- IDEALLY: NEED OF A REAL CONTROL → OUTSIDE THE PROJECT
  - BUT UNLIKELY TO BE ACHIEVABLE (LOGISTIC, TIME TO APPROACH)
  - NOT REALLY AN ISSUE IF WE DO NOT WANT TO KNOW IF THOSE WHO JOIN THE CLUSTER ARE MORE ALTRUISTIC

# EXPERIMENTAL DESIGN

- SUBJECTS RANDOMLY SELECTED
- PAYMENTS IN **ORGANIC SEEDS** AT THE END OF ONE SESSION, BASED ON ONE OF THE FIVE TASKS RANDOMLY SELECTED
- PENCIL & PAPER GAMES
- TRANSLATED TO LOCAL LANGUAGE (PEDI). HELP OF ENUMERATORS FROM AWARD AND FROM UKUVUNA.

# DISCUSSION / QUESTIONS

- CLUSTERS AND SOCIAL NETWORKS
- ORGANIZATION OF THE SESSIONS IN THE 'LABS IN THE FIELD', TIMING...
- QUESTIONNAIRE FOR RETROSPECTIVE SURVEY
- NEED OF LOCAL STAFF
- BUDGET
- FIRST RUN LAB EXP IN UP?
- CORONA...