

HEALTH AND SAFETY IN COCOA AGRICULTURE

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May, 2010

Objectives

At the end of this section, participants will

- Understand the principles of occupational Health and safety relevant to child labour
- Able to use Health and safety approach in identifying and quantifying hazardous work
- Able to apply the health and safety approach on cocoa farming.

Work & Health



The health/wellbeing in the employee and ill effect of work interact constantly during the process of work

Work and Health

- **Negative Effects of Work on Health**
 - **Direct cost**
 - Ill health
 - Injuries
 - Accident
 - Death
 - **Indirect cost**
 - Absenteeism

Statistics

- According to the ILO, annually;
 - 250 million work related accidents
 - 160 million ill-health/disease
 - 1.2 million deaths
 - Cost: compensation, lost work days, medical expenses, interruption to production -4% of GNP

Statistics

- **Developing countries**
 - Risk is 10-20 times more
 - Hazardous work environment
 - Unsafe work practices
 - Inappropriate design & tools
 - Lack of occupational health & safety
 - High prevalence of HIV/AIDs

Basic Concept in OH

- Important OH terms
 - Hazard
 - Risk
 - Hazardous child labour

Hazard & Risk

- Hazard: is a existing or potential source of harm. It is actual the attribute, nature, physical condition of a thing that causes harm
- When you identify the actual harm causer then that is the hazard

Types of Hazards

- **Obvious Hazard:**
 - Cause direct, observable and immediate damage to health
 - e.g sharp edges, Electricity, fire, lifting and handling very heavy loads,
- **Hidden hazards;**
 - long term damage to health
 - Noise, dust, long working hours, chemicals

Sources of Occupational Hazard

- Tools/equipment/machinery
- Task/Activities
- Work environment
- Condition/circumstance under which work is done

Risk

- Describe how likely is the harm from the hazard in a particular circumstance.
- Risk in its basic form it is rated as a function of
 - adequacy of controls/protection in place against the hazard
 - Vulnerability of person
 - Severity of the health harm
- Risk from a hazard could be rated as high, medium or low
- High risk hazard are a priority hazard for intervention

SO WHAT IS THE SOLUTION?

ANSWER



Health & safety

Health and safety

- Health and safety is ensuring a condition of work that is **tolerably free** from risk of injury or threat to workers health and wellbeing.
- A condition of work here means a condition of work equipment, work environment, work method/process
 - tolerably free from disease, injury, accidents, exposures
 - tolerably free from psychosocial risks e.g. harassment, bullying, stress, unfair treatment.

ACTIVITIES in health & safety

- Identify the hazards and assess the risk to health from the hazards
- Put measures in place to control or prevent these hazards
- Continuous education, training and capacity building in Health & Safety
- Regular health checks/health surveillance
- Promote health; healthy lifestyles, building positive health

Targets of OSH Activities

- workers,
- their working practices,
- the work itself,
- the work environment,
- working tools
- work organization,
- job design,
- hazardous exposures,
- machinery or
- chemical substances

APPLICATION OF HEALTH AND SAFETY PRINCIPLES IN CHILD LABOUR

Statistics

- According to ILO
 - out of 352 m children aged 5-17 work in economic activity
 - 246 million are considered as child labour.
 - 180 million children are in the “worst forms of child labour” (WFCL).
 - 70 - 80% of WFCL are in Agriculture

ILO Convention 182

- ILO convention 182 defines criteria for WFCL
- Work which by
 - nature or circumstances can harm the
 - .health
 - .safety
 - .moral of children.
- . Referred to as hazardous work(171m children involved)

Child labour and Health

- The link between child labour & Health
 - is complex ,
 - Relatively weak evidence on subject,
 - not clear cut.
- Thus **occupational health approach** is needed

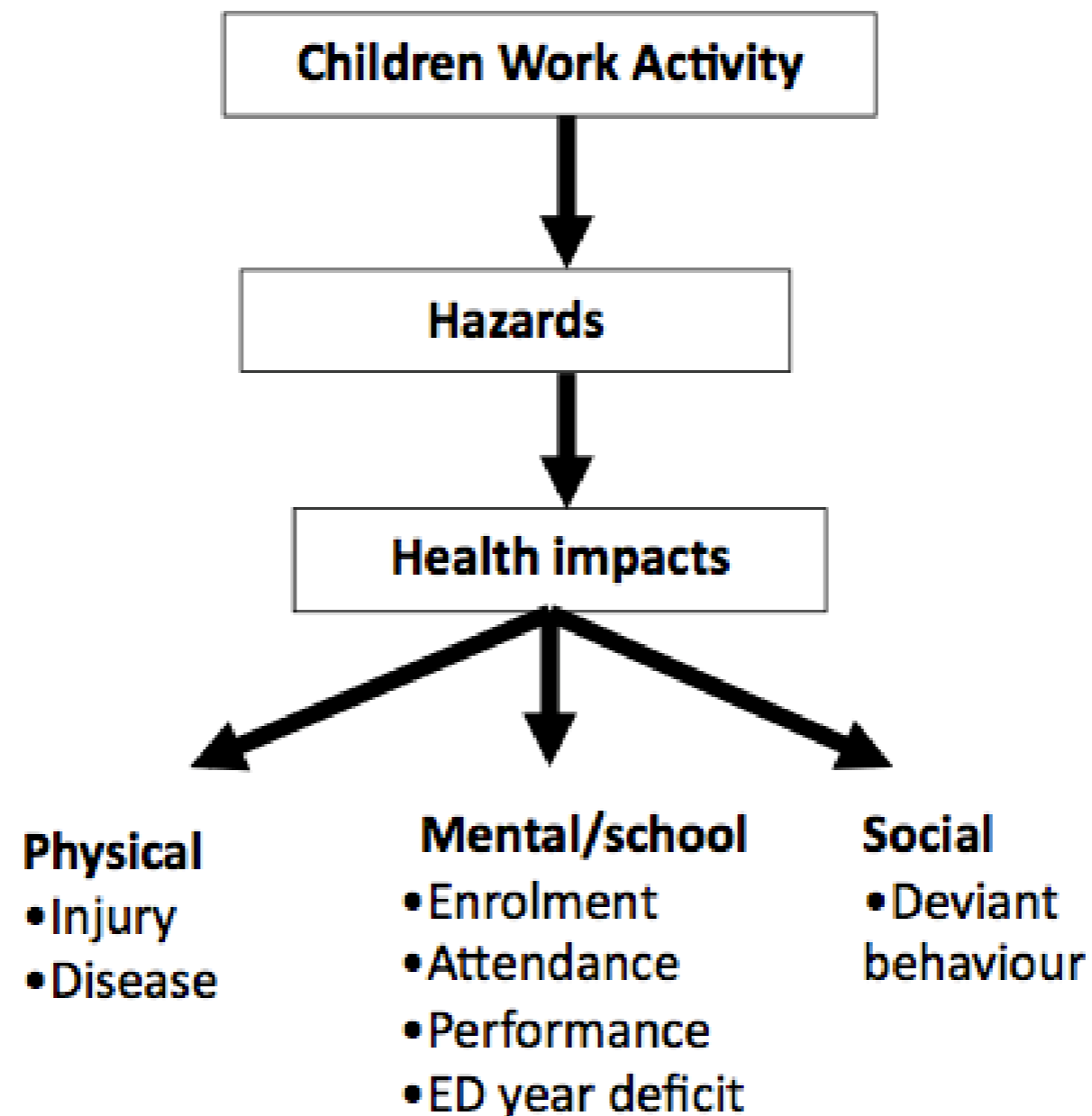
Role of occupational health and safety in child labour

- **provide evidence of the health consequences of different types of child labour in order**
 - to identify hazardous work
 - make effective its prohibition
 - offer rehabilitation
- **Characterization (i.e. identify types, intensity and nature) of child labor that is most damaging to health in order**
 - to reduce child labour ,
 - To design programmes to protect health of the child worker

Application of OH in Cocoa Farming in Ghana

- **3 mechanisms by which child labour may impact health**
 - Occupational hazards
 - Foregone education
 - Household income

Work-Hazard-Impact Relationship



Vulnerability of working children

- Physiological and psychological immaturity
 - abuse and health risks
- Biological process of rapid cell growth reduces latency period of some diseases
 - respiratory complaints, cancer etc
- No variation in sizes of working tools to accommodate for body size, strength and skill of children
 - Child is more prone to injury due to accident

Vulnerability of working children

- More sensitive to heat, noise, radiations, lead, silica
- Physical strain of work on growing bones and joints
 - stunting
- Malnutrition
 - stunting and increased health risk
- Protective clothing, safety devices and the min exposure levels
 - not designed for child workers
- Are exposed to risk factor for longer periods

Discussions

- What are some of the hazards in cocoa farming
- How do we solve them

COCOA SPECIFIC FARM ACTIVITIES

1.0 Land preparation

- Land Clearing
- Felling and Chopping trees
- Burning
- Destumping
- Pegs Cutting
- Lining and Pegging

3.0 Farm maintenance

- Weeding & thinning
- Sanitation and Pruning
- Mistletoe Control
- Carrying Water for Spraying
- Spraying/application of pesticides
- Applying of Fertilizer

5.0 Post-harvest

- Carting of fermented beans to drying area
- Drying & sorting of beans
- Carting of dry beans for sale

2.0 Planting

- Preparation of Seedlings
- Carrying of Seedlings
- Planting of Seedlings
- Sowing at Stake

4.0 Harvesting

- Plucking of Pods
- Gathering
- Heaping of Pods
- Pod Breaking
- Scooping of Cocoa Beans
- Fermentation

6.0 Others

- Watching over drying beans at night

Farming Tools used in Cocoa production

Activity	Available Tools
Clearing & felling trees	Cutlass, Axe, Chain saw
Planting	Cutlass, Hoe, Earth Chisel
Weeding	Cutlass, Hoe
Agrochemicals	Hand-pump sprayer (Knapsack) , Motorized sprayer,
Harvesting	Long cutlass, Pluckers; so-so or go-to-hell
Breaking pods	Small cutlass
Carting fermented beans	Baskets
Drying & sorting Beans	Platforms/raffia mats/baskets
Bagging Beans	Jute sacks, Bowls

Work environment

- Cold and damp
 - esp in raining and harmattan season
- Poor visibility from tree canopies
- Biological agents
 - Snakes, insects, scorpions
- Chemical agents
 - Pesticides, fertilizers
- Lack of drinking water and sanitary facilities
 - Drink from shallow ponds and streams
 - No toilets or washing facilities
 - Wash at home sending insects, parasites, pesticides or chemicals home

Condition/circumstance of work

- No/limited Personal Protective Equipment
 - No child sizes or may exist but hard to get and expensive
- Lack of training
- Work is seasonal
 - Rush in peak seasons
- Difficulty in regulating child work environment
 - raises the health risks

CHILDREN'S PARTICIPATION IN COCOA

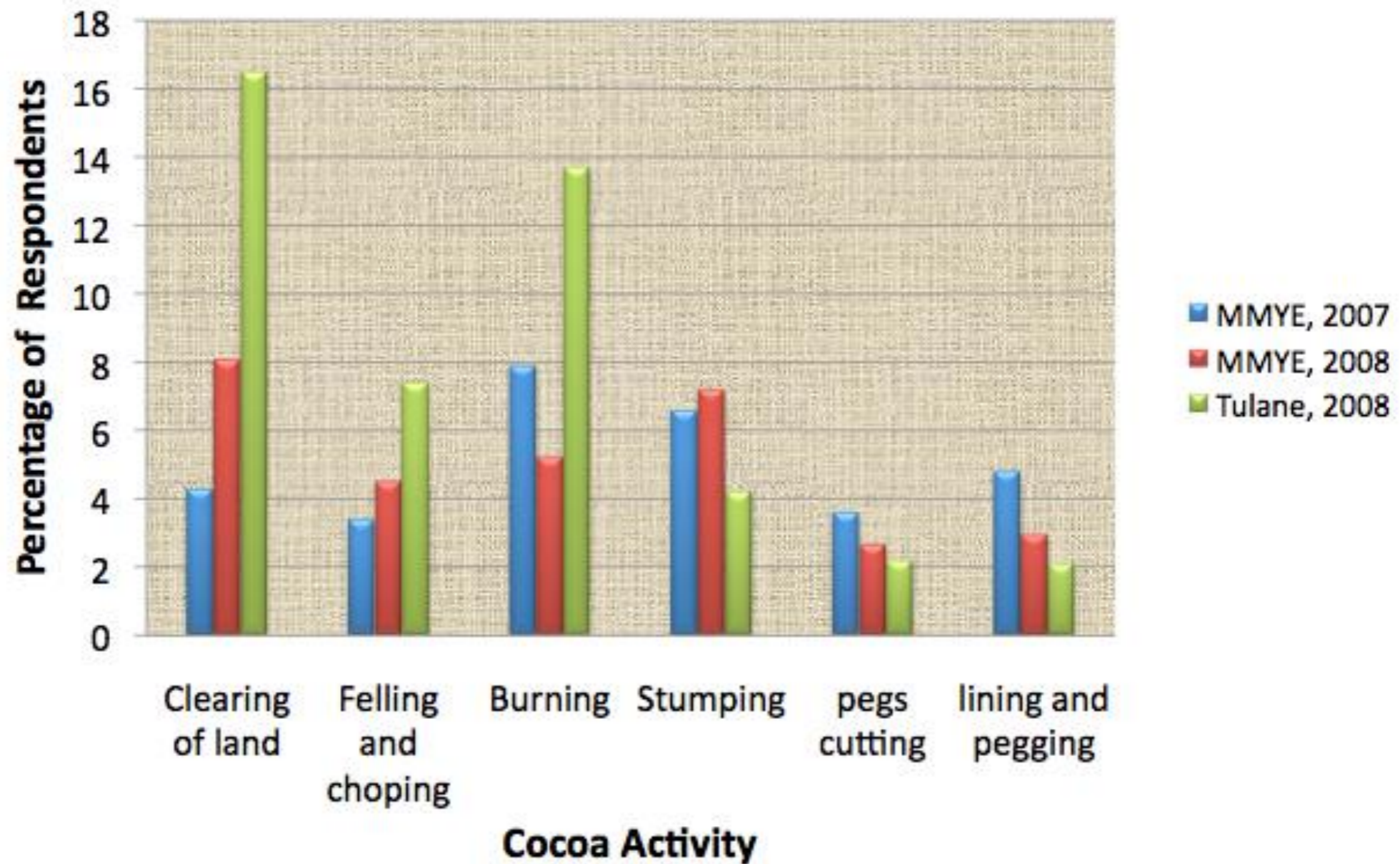
Current Activities

Economic Activity	Percent
Cocoa farm work	48.3
Other crop farm work	36.3
Hawking/street selling	10.4
Selling at the marketing	5.1
Livestock rearing	1.5
Artisan work	0.1
Non Economic Activities	
Religious activity	41.6
Domestic chores	89.7
Leisure/recreation	91.6
Studying at home	67.1
Schooling	92.1
Total	3446

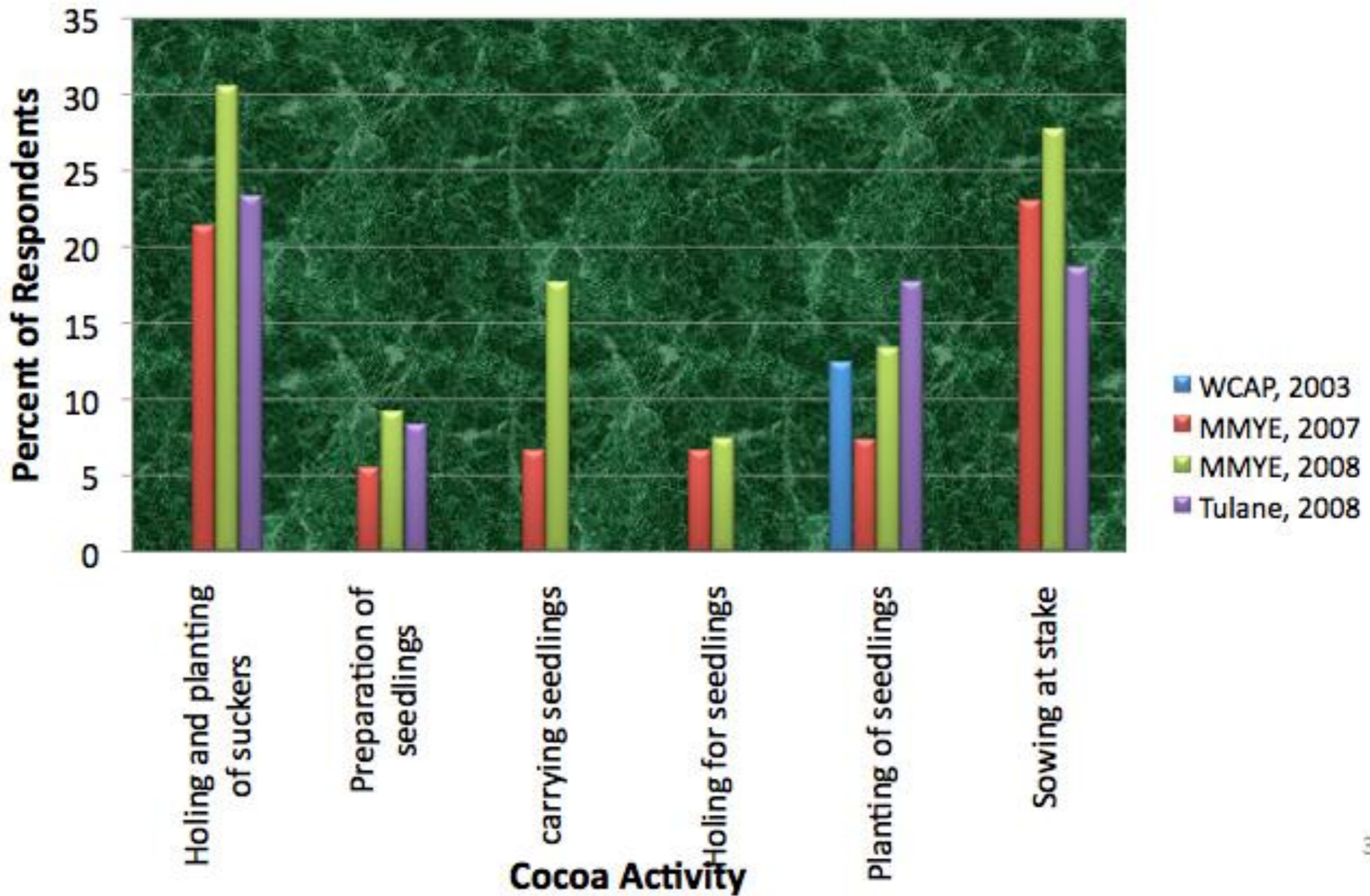
Rate children engagement in cocoa

No cocoa activity	%
1-5	59.4
6-10	28.4
11-20	10.6
21-27	1.6
Total Children(N)	1000

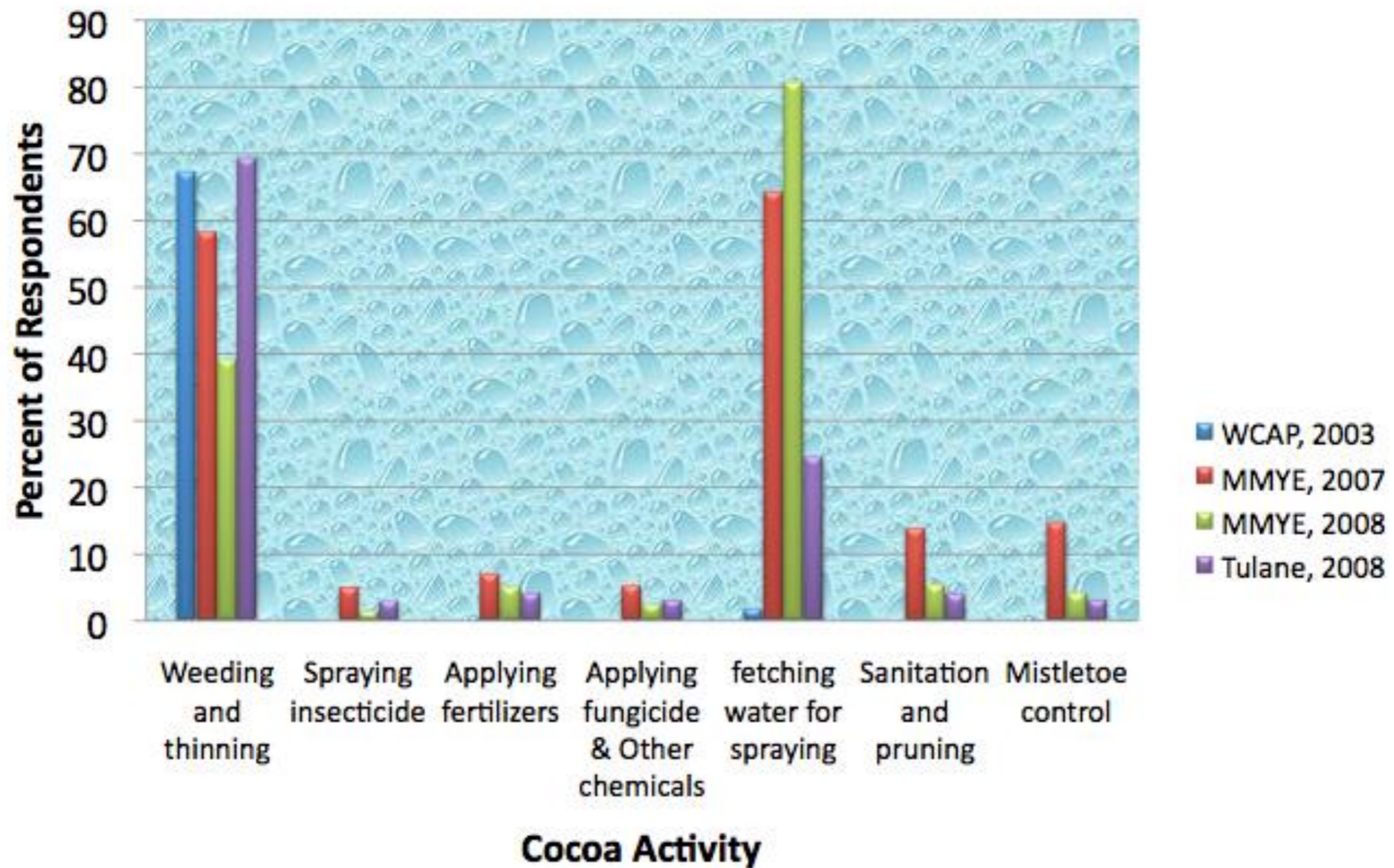
Land Preparation Stage



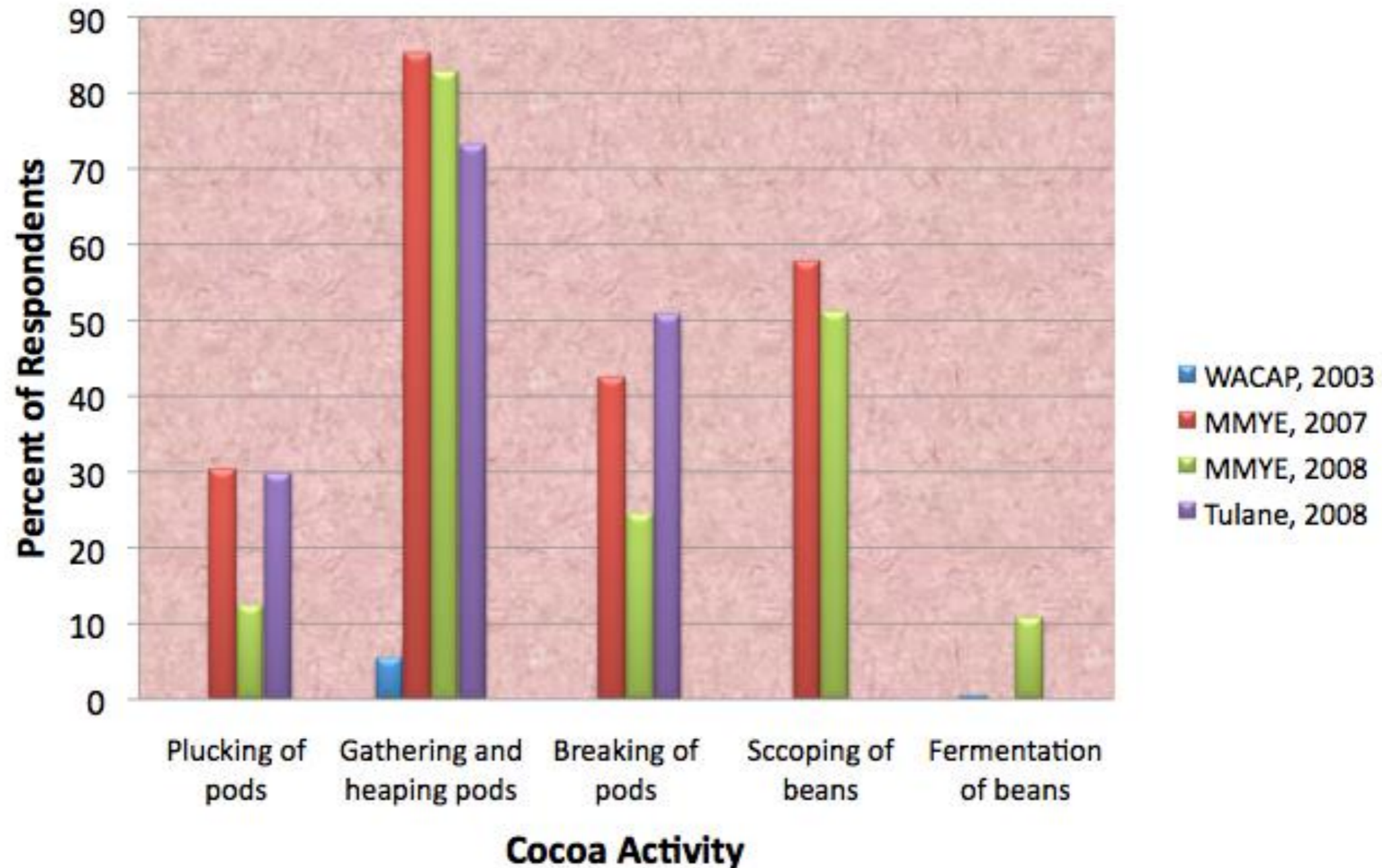
Planting Stage



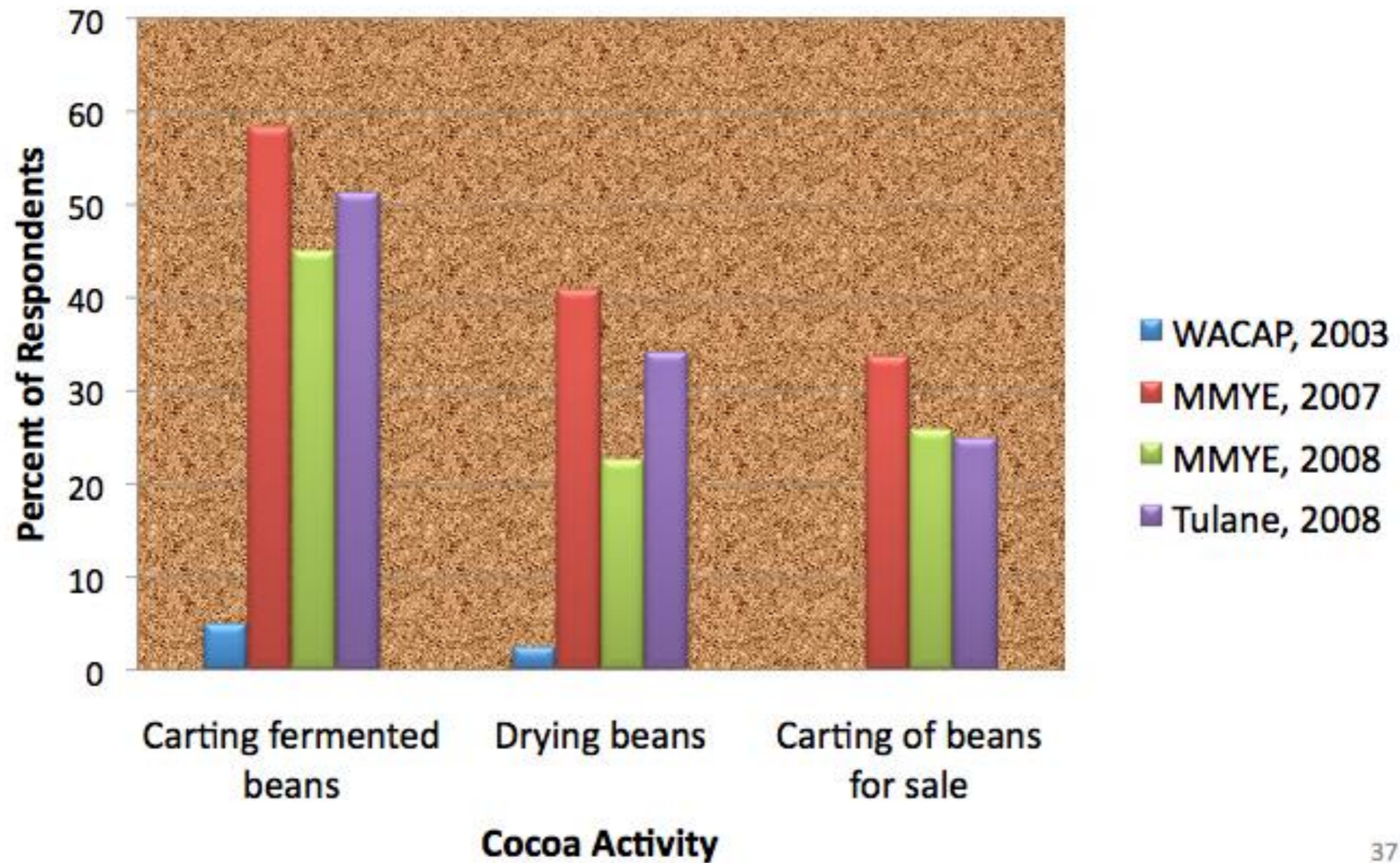
Farm maintenance Stage



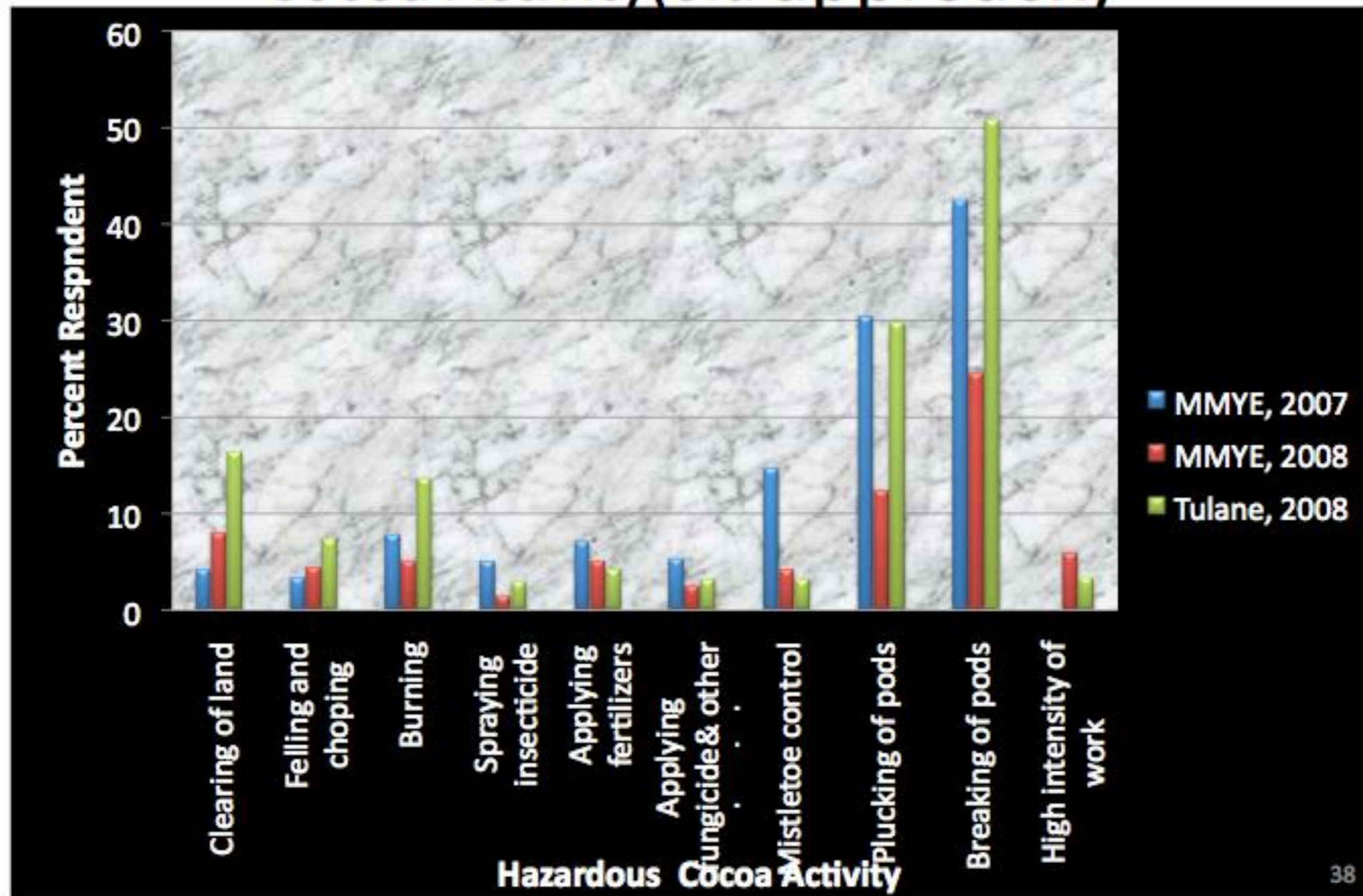
Harvesting stage



Post Harvest stage



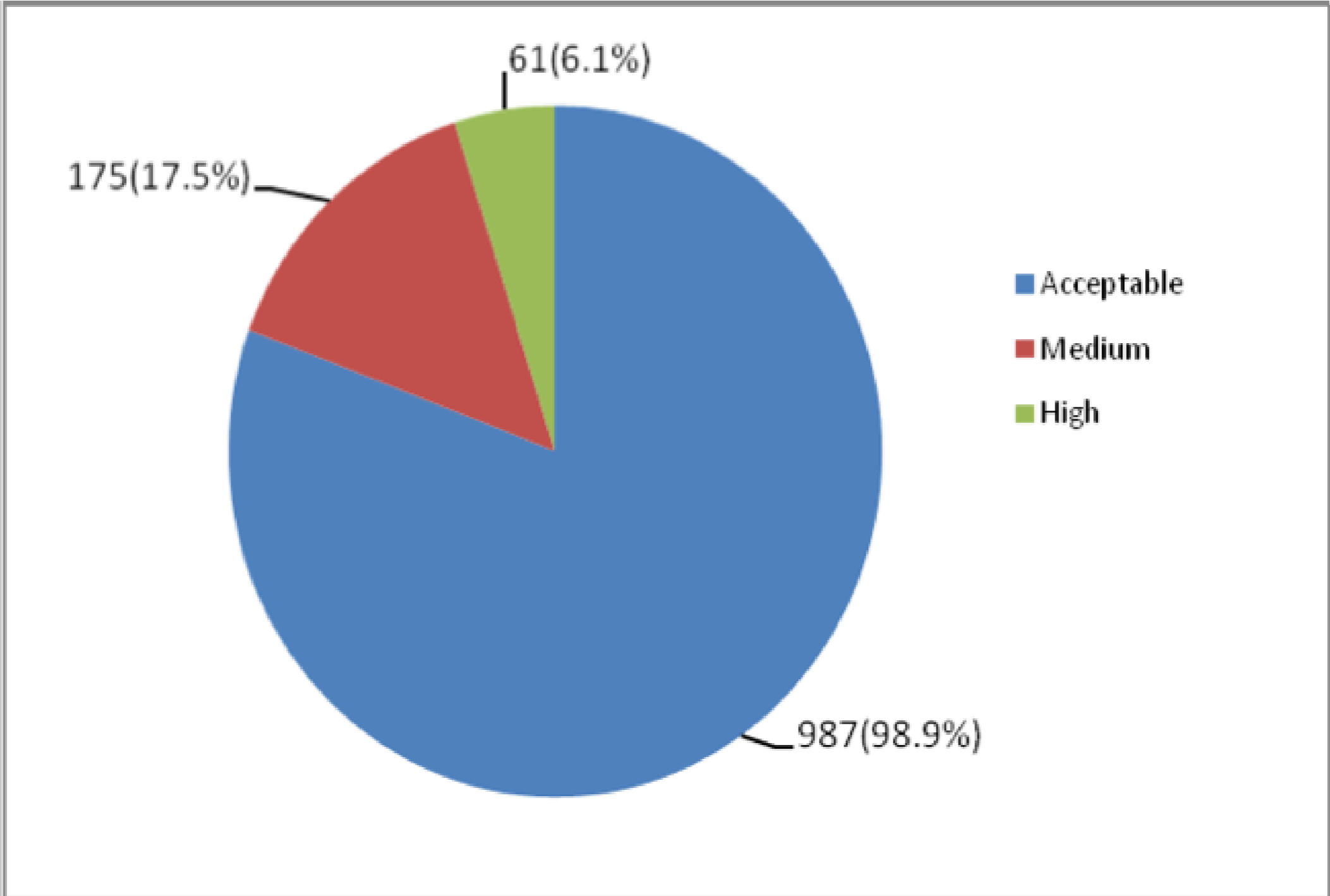
Children's Participation in potentially hazardous Cocoa Activity (old approach)



Work intensity standard

Days per week	No. of hours per day		
	1 - 3 hours	4 - 6 hours	≥ 7 hours
1 day	Acceptable	Acceptable	High
2 days	Acceptable	Acceptable	High
3 - 5 days	Acceptable	Medium	High
6 - 7 days	Medium	High	High

Fig 8.13: Intensity of participation of children in cocoa work



Use of Protective Clothing

Type of Protective clothing	No. of Children	Percent
Body covering (trousers, long sleeves, long dresses)	759	94.8
Foot wear (Afro Moses, Boots, W. Boots, canvass)	552	68.9
Protective Cap	57	7.1
Gloves	19	2.4
Goggles	8	1.0
Nose Mask	7	0.9
Others	14	1.7

Hazards on Cocoa Farm

Potential source of Harm	Factors contributing to health impacts
Head portage of heavy baskets/bag of pods or beans over long distance, Handling/ lifting cocoa bags, motorised spraying gun	Weight of the load Age and body size, Distance
Sharp & Dangerous Working tool	Age of child, Training/coaching given Hurry, excess work, opening tough pods, Debris entering the eye
Exposure to agro chemicals	Age of child, PPE, Awareness of danger, Poorly discarded pesticide containers
Awkward postures, repetitive & forceful movements	Age & body size, Duration of work Appropriateness of the tool
Slips & falls	Foot ware, terrain, raining season, Hurry, time of day Heavy or wield load
Farm environment <ul style="list-style-type: none"> •Snakes, Insects, wild animals, allergic plants & animals •Dust & Drift agrochemicals •Extremes of open weather (elements) •Falling cocoa pods, smoke & fire from burning 	No foot ware, protective clothing such as long sleeves, trousers or long dress, lone working

Annual Hazard Exposure Rate

30-50%	10-29%	< 5%
<ul style="list-style-type: none">• Carrying heavy load,• Insect sting/bite,• Injury from tools esp cutlass, tree stump & thorns• Slips & falls,• Prolong unnatural bending postures/ long hours of work	<ul style="list-style-type: none">• Dust from weeding & stirring cocoa beans,• Exposure to elements; heat during hot days & cold in rain storm, raining season• Walking long distance,• Unsuitable tools,• Inhaling agrochemicals,• Repetitive work	<ul style="list-style-type: none">• Loud noise,• Snake bite,• Forced to work when sick,• Lone working

Health Impacts

Injuries

- Pricks
- Cuts or Lacerations
- Impact injuries from falling cocoa pods or pluckers
- Neck pain, backbone pain, spinal deformities
- Eye injuries
- Children caught by traps set for game
- Exhaustion

Disease

- Malaria
- Typhoid fever
- Diarrhea
- Skin rashes, Foot rot
- Anaemia
- Respiratory problems
- Buruli Ulcer
- Poor health & physical development-stunting
- Physical disabilities & impairment

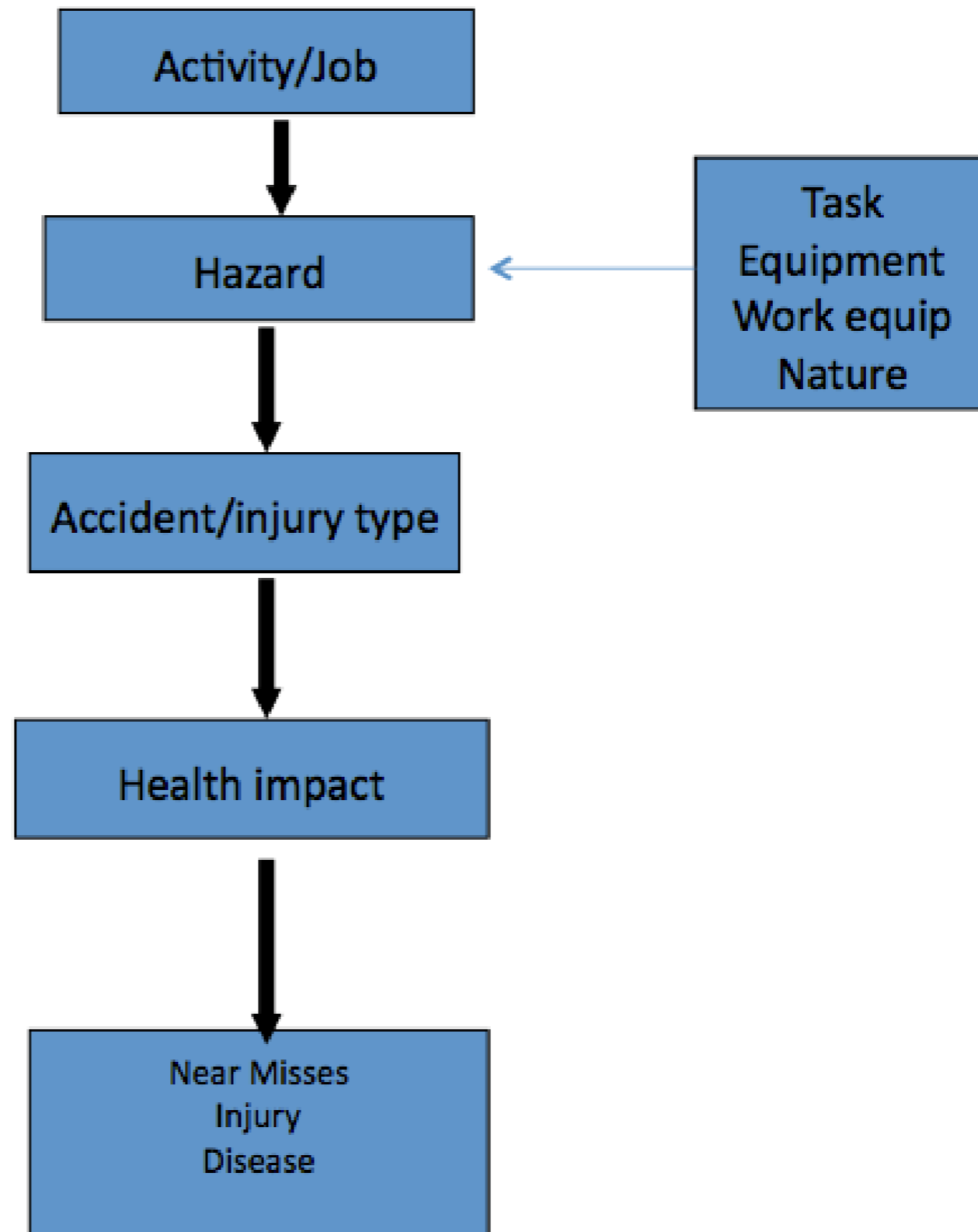
Social effects

- Violence
- Indulgence in drugs
- Drug addiction
- Social misfit & deviant behaviour

Psychological effect

- Low intelligent quotient of children
- Less emphasis on education
- Poor performance at exams & high school drop out rate
- Low future employment opportunities, low income earning ability & poor living standards
- Poor outlook to life

CONCEPTUAL MAP(physical health)



Place of recent injury

Location	n	%
Whilst working on the cocoa farm	37	16.7
Whilst working on other crop farm	25	11.3
On the way to and from farm	12	5.5
Home	77	34.7
School	47	21.2
On the way to school/ market / other places	13	5.9
Other	11	5.0
Total	222	100.0

Health impacts

- **Use of pesticides**
 - Respiratory symptoms 20%
 - Skin irritation 10%
 - Eye irritation 6%
- **Application of fertilizer**
 - Skin irritation and/or headache 12%
 - respiratory symptoms 8%
 - eye irritation 4%
- **Carrying loads**
 - Neck pains 55%,
 - back pains 36%,
 - leg pains 23%
 - Waist/chest pains 11%.

Health impacts

- **General Health impacts**
 - Farm related injury or ill health 65%
 - Injury from cutlass 60%
 - Persistent pain after days work 27.5%
 - Fungal skin infection occurred in 40% of children.
 - 75 – 80% of children has had one main injury,
 - High ill health rate; up to 30% children experience ill health monthly.
 - 32% children were not immunized indicating inadequate access to healthcare care
 - 36% of children are stunted.
 - Anaemia was rampant; 60% of children.

Episodes of work related injury

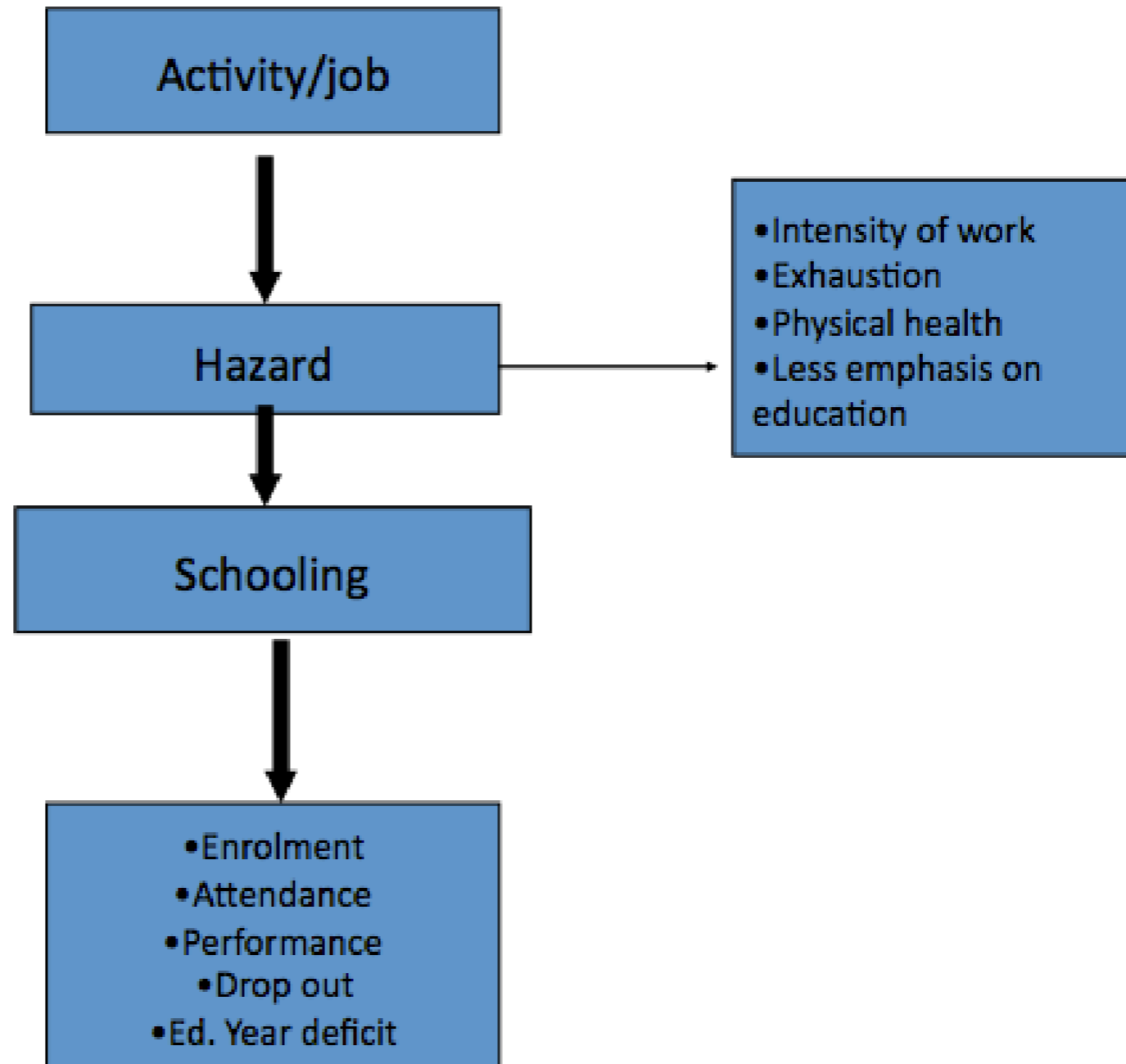
Type of work related health incident	n	%
Animal bites(insect, Snake & other)	325	24.2
Cutlass wound	305	22.7
General illness	281	21.0
Slip and fall	180	13.4
Falling under loads	154	11.5
Wounds due to thorns stump	30	2.2
Exposure to chemicals	28	2.1
Insect bites	20	1.5
Inhaling dust/smoke	8	0.6
Total	1341	100.0

Severity of injury

Severity of injury	Percent
Superficial injury	57.7
Injury required basic treatment	38.3
Injury required skilled treatment	3.1
Injury required hospitalization	0.6
Injury, near death situation	0.2
Total	100

Conceptual Map(Education)

1



Schooling parameters

indicators	
Gross Enrolment	88.5
Net Enrolment	89.9
Children in Age-appropriate (5-17)	13.7
6-14yr	17.3
Recent school attendance	89.9
Never attended school	6.2

NEVER ATTENDED SCHOOL

Age	per cent
5	16.4
6-12	5.2
13-14	4.0
15-17	7.1
Average	6.2

REASONS FOR RECENT NON ATTENDANCE

	Frequency	Percent
Parents don't have money	27	9.9
I have to work on the cocoa farm	26	9.5
I didn't feel like attending school	45	16.4
There was no school	13	4.7
I had to go the market	5	1.8
I don't like school	5	1.8
Poor performance in school	4	1.5
School is far away	15	5.5
I was sick	105	38.3
Other	29	10.6
Total	274	100.0

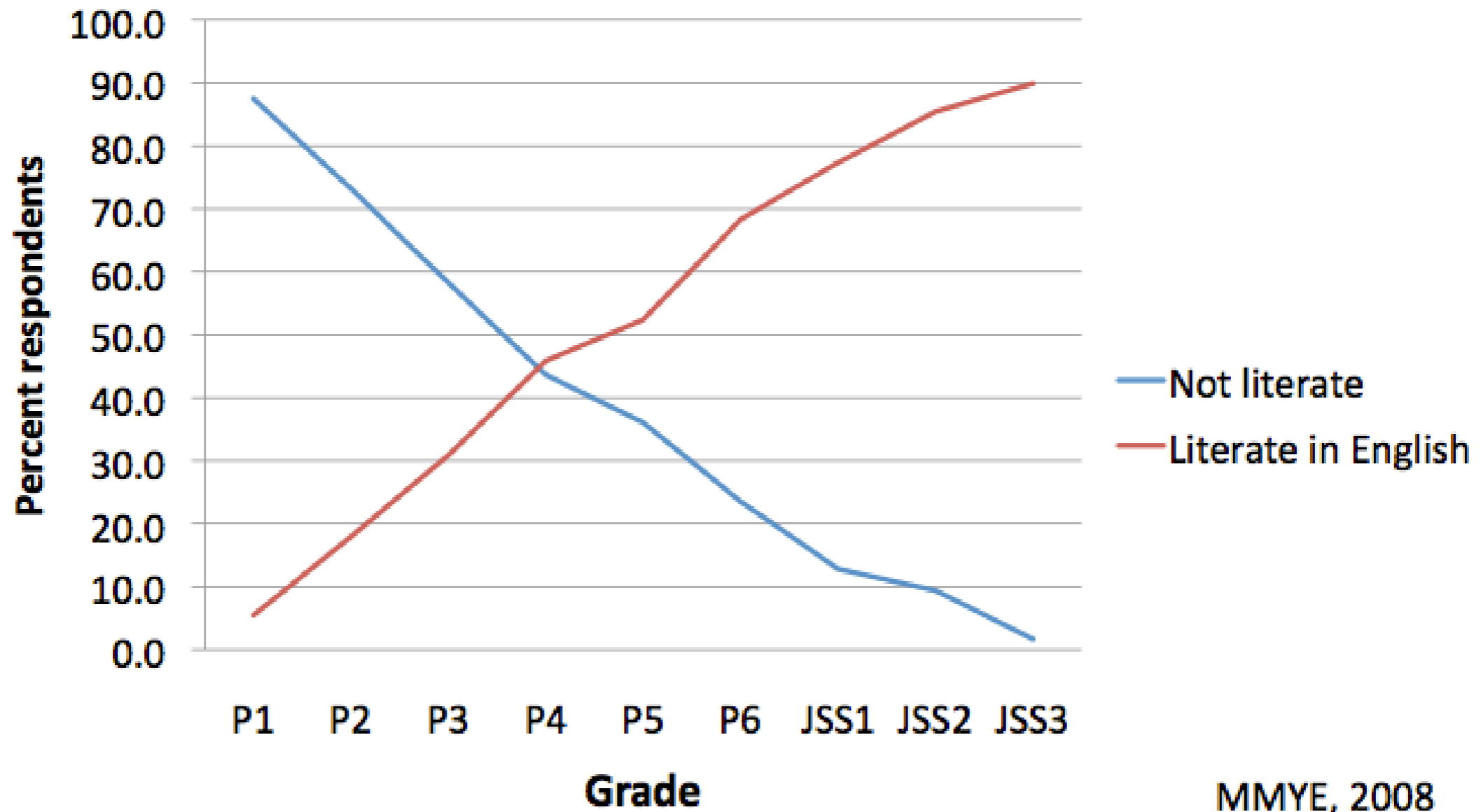
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Literacy by Grade

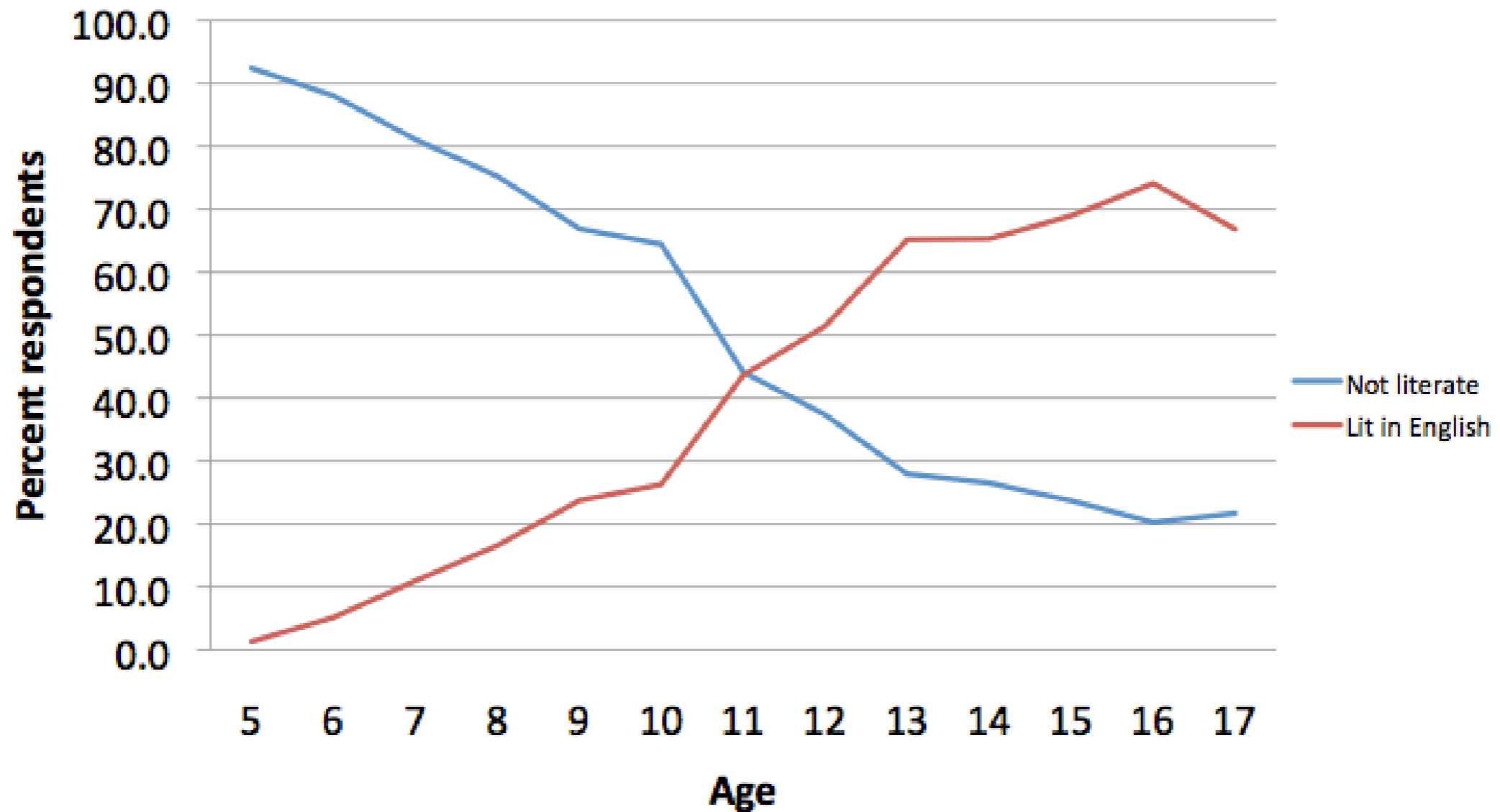
Stage	Not literate in English	Literate in English	Total
Lower primary(P1-P3)	76.4	15.1	1436
upper primary(P4-P6)	34.4	55.6	889
JSS	9.2	82.9	545
SSS/VOC	3.2	87.1	31
others	92.9	1.4	70
Total	51.1	40.1	2971

MMYE, 2008

Literacy by Grade



Literacy by Age



MMYE, 2008

summary

In Progress...

FARM SAFETY & TECHNOLOGY INNOVATION IN COCOA AGRIC

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Protective clothing

- Proper use and maintenance of specific measures to reduce hazards e.g.
 - Body covering
 - Foot protective clothing
 - Finger protection
 - Eye protection
 - Full Personal Protective Equipments(PPE) for Chemical workers

Criteria for Best Practices

- Cost-Effectiveness
- Cultural Sensitive
- Local production
- Participatory farm safety approach
- Sustainability(public – private –local partnership)

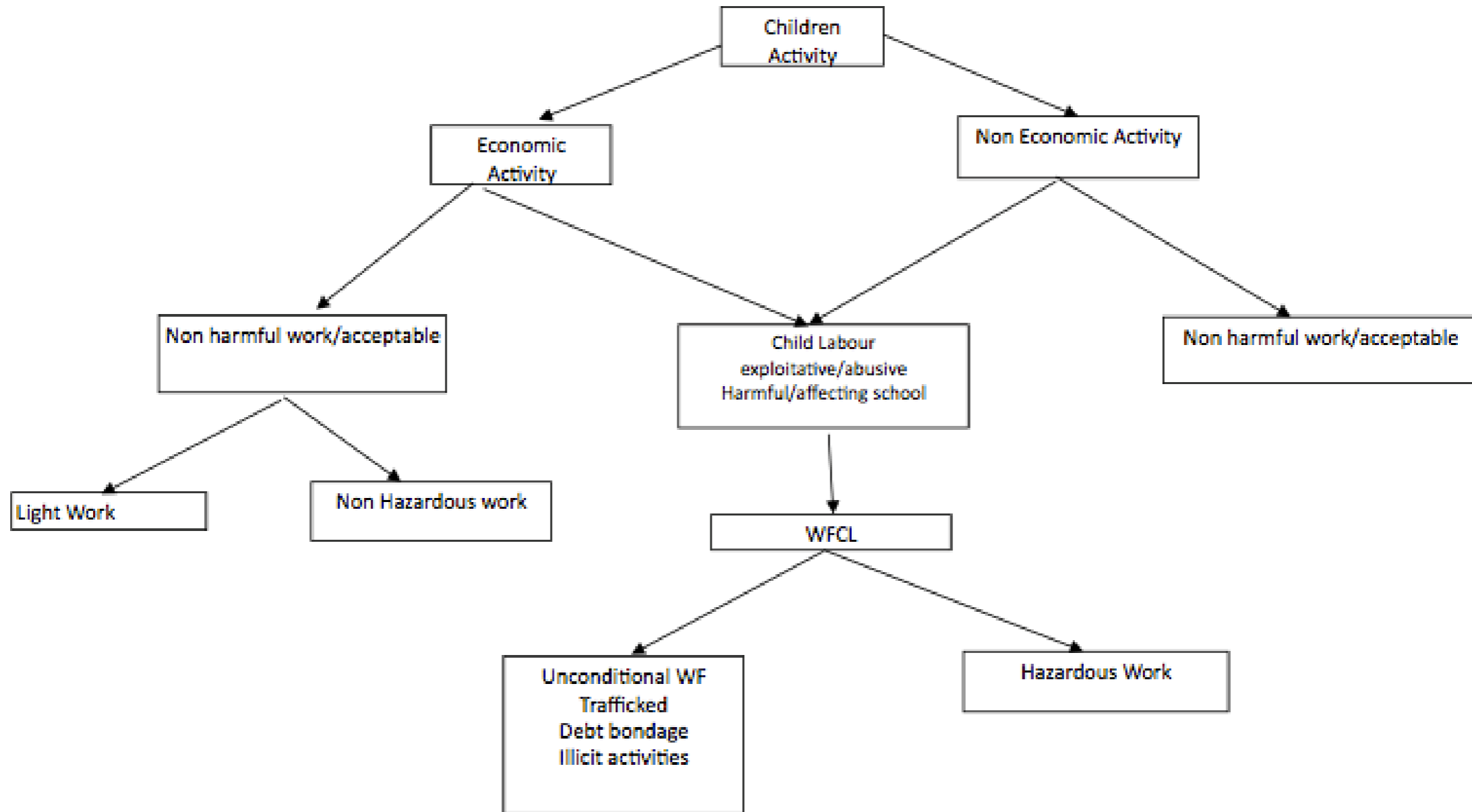
**HAZARDOUS CHILD LABOUR
FRAMEWORK FOR THE COCOA SECTOR
IN GHANA**

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CONTEXT



SITUATION

- Increase international pressure on CL in cocoa
- Government's own concern & commitment welfare of children
- Response: Many research since 2000 to understand the phenomenon of CL identify hazardous work as the main form of WFCL

PROBLEM

- Cannot quantify HCL. Why?
 - Lack of appropriate frame work
 - Existing list and Children's Act limited in scope and depth
 - Typical concept of HL is unsuitable for agric
 - Not possible make meaningful & conclusive interpretation of research data

JUSTIFICATION

- Ghana had rectify ILO 182
- Permit countries to identify their own list of hazardous work/activities in each sector
- **Benefits of HL**
 - Facilitate evaluation of child work
 - Acceptable to key stakeholders
 - Relevant to our context but provide enough standards to drive intervention
 - It a major milestone
 - Gives the best option for intervention

AIM

- The overall goal of this project is to develop a comprehensive, age-appropriate, contextually relevant and acceptable hazardous child labour framework for Ghana's cocoa sector to drive research, intervention, monitoring and enforcement.

METHODOLOGY

– HCLF FORMULATION

- **EXPLORATORY LITERATURE REVIEW**
 - Exploratory review of existing knowledge, hazardous list suggestions and experience in cocoa sector form the basis of preliminary hazardous framework draft thus building on existing knowledge and avoiding reinventing the wheel.

METHODOLOGY

- **COMPILING THE HAZARDOUS LIST**
 - **Inclusion criteria**
 - Age of the child
 - Work which by type or nature is associated with serious impact on health and development.
 - Circumstances /conditions which increases risk of impact whether the work by nature non hazardous or not;
 - intensity of wok, use of PPEs at work,
 - Potential impact on schooling
 - Objectives of the Children Act -“best interest of the child”

METHODOLOGY

- **Exclusion Criteria**
 - Any issue/activity which did not potentially impact significantly on the child's health & safety or education was excluded. Thus non involvement of children based only on economic or related reasons were excluded from hazardous list.
 - Activities for which alternatives are limited were tolerated as far as reasonably practicable

METHODOLOGY

PHASE II: VALIDATION OF THE HAZARODUS LIST

- *Consulting farming communities*
 - using participatory qualitative research approaches.
 - *Tailored FGDs*
 - *In-depth interviews of key informants*
 - Targets
 - *Farmers, children, community leaders and teachers in 7 district and 4 regions*
 - Reason
 - *Solicit their input*
 - *Test acceptability of the proposed list*

METHODOLOGY

- [Pilot Anthropometric Research](#)
- Target
 - Children(5-17) in cocoa growing areas
 - Anthropometric data from 1200
 - Typical carrying weight survey
- Reason
 - To operationalise carrying loads standards for children

METHODOLOGY

PHASE III: *National stakeholder consultation*

- 1-Day National stakeholder forum
 - Targets
 - MMYE, MOWAC, EPA, COCOBOD, GHS, MOFA, FI, MLGRD, GES, RA, DA ,GAWU, Centre of dev of CEDEP, NGOs, ILO, UNICEF, ICI
 - Reasons
 - Trade-offs to arrive at an acceptable hazardous child labour List commensurate with our current level of development and in the best interest of our children.