THE MEANING OF THE TASK

Coffee harvesting - Costa Rica



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RHSF Ressources Humaines Sans Frontières

Lab 8.7 by RHSF

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INTRODUCTION

In the agriculture as in other sectors, protecting workers starts with recognizing their work. In other words, it starts with valuing agricultural **tasks**, recognizing their challenges and their **impacts** on ecosystems, final products and people. It starts by looking at the "Artisans of the Ground", their **skills** and their contributions to agricultural products, landscapes, terroirs and ecosystems.

The present document, focused on the task of coffee harvesting, is an extract of a broader RHSF internal document dedicated to all coffee tasks implemented in the Costa Rican region where RHSF piloted a project to prevent child labour in multiple small farms from 2022 to 2024. **This extract is a real-life example of what RHSF takes into consideration in the agricultural tasks themselves when developing an experiment.**

All aspects are analysed locally, with workers and producers, starting from their realities through interviews and observation of the task. The health and safety part is covered both considering the realities of local farms (e.g.: small farms, local / migrant, adult / minor workers) and in light of international conventions as well as national recommendations and legal obligations (see "Sources").

In the case of the Costa Rican experiment, this internal document has been valuable throughout the project to engage with the project team and all stakeholders (farms, workers, minors, educational and health actors...) in dialogue and actions dedicated to:

- **Promote the value of *all* tasks** (including the least valued, like harvest), as well as **the work of *all* workers** (including women, minors and migrant workers), their skills and their multiple impacts;
- **Deepen the protection** of all workers, including minors;
- Build an educational programme to **broaden the perspectives** of minors on the agriculture of today and tomorrow, introducing them to the richness and variety of agricultural tasks, skills and professions, in conditions of protection adapted to their age.

Please feel free to test this framework in your own initiatives to better protect people in the agriculture and nurture their future projects. If you want more information on our approach, please contact us at contact@rhsansfrontieres.org.

LOCAL COFFEE PLANTATIONS' TASKS SCHEDULE



	11	12	01	02	03	04	05	06	07	08	09	10
Holidays for children in Nicaragua	*22/10 – 06/11/22*	*17/12/22 - 09/01/23*				*01/04 – 10/04/23*		*15/06/23 - 03/08/23*				
Holidays for children in Costa Rica		*10/12/22 - 08/01/23*				*01/04 - 24/04/23*			*15/07/23 - 04/08/23*			
♀ Picking / harvesting												
Drying naturally												
♀ Nursery / seedling maintenance ("semillero" and "almacigos")	**Semilleros**		**Almacigos**	**Maintenance 4/5 months**								
Land preparation												
♀ Planting new trees												
Renewal pruning of coffee trees			**1 time**									
Watering												
Pruning for shade							**1 time**			**Maintenance**		
Deshija							**1 time**			**Maintenance**		
♀ Weeding: herbicides + mowing (chapea)	**Maintenance**					**1rst**			**2nd**		**3rd**	
♀ Fertilizing							**1rst** When the flower appear		**2nd** when the flower falls		**3rd** when about to mature	
Pest and disease management (insecticides, herbicides, and fungicides)	**Treatment if there is plague**						**1rst**			**2nd**		**3rd**
Composting	**All along the year**											
General farm maintenance	**All along the year**											

♀ = tasks to which women are commonly associated in the community. Some women also work on other tasks.

PICKING / HARVEST

It is typically done in 3 phases (more and more disturbed by climate change):

1) “granea”: selecting and picking coffee cherries that are ripe to “clean” the plants, give them strength, ensure better fruit for “pico” and have less heterogeneity,
2) “pico”: selecting and picking ripe coffee cherries, that are much more numerous at this point,
3) “repela”: picking last cherries.

I- Detailed description of the task

1) Workers: wait for transport, go to the farm / Farmer: drive workers to the farm
2) Assigned area to harvest, take the equipment (basket called “canasta”, sacks and personal bag), walk to the work site in the farm, divide the furrows (“calles”)
3) Select by hand coffee cherries ready for picking, fill canasta around waist and regularly empty the canasta into a bag at the beginning of the row or inside the row
4) Bring the bags of coffee to the collection and measurement point
5) Clean the cherries to remove excess leaves and twigs. Especially during the repela period, sort the coffee,
6) Wait for the measurement process to start and queue up
7) Empty the bags of cherries into the “cajuelas” to measure the amount of coffee collected by each person or family. Record number of cajuelas per worker or family. Fill the sacks for the “beneficio”.
8) Transport sacks to the vehicle if it is not at the measurement point. Load sacks into the vehicle
9) Prepare baskets, bags and sacks for next day’s harvest, clean and secure measurement station
10) Return of workers to their homes
11) Put the coffee in the beneficio: unload vehicle, empty sack in the beneficio

Hours of work: during the observed days with Nicaraguans, they worked in the plantation from 6 am to 6 pm: departure from their housing at 5:45-50, starting in the plantation at 6am, departure from the plantation at 6pm in the night. They usually work 6 days / week, from Monday to Saturday. According to interviews and observations, local workers usually leave the plantation at 3-4 pm.

II- Impact on the final product

Selecting ripe beans improves the quality of the coffee – however with no impact on the price of coffee for producers in the community of the project.

Respectful harvesting of the coffee plant (not tearing off the leaves…) maintains a healthy plant and then contributes to a quality coffee.

The first phase, granea, is about “cleaning” the plants, giving them strength to ensure better fruit for pico and in the end a better coffee.

Informed workers can identify possible diseases/pests in the coffee plants and report them to the producer.

III- Impact on environment and biodiversity

No specific impact identified for this precise task. More generally, coffee growing is locally associated with much less chemicals than other local cultivations.

IV-Impact on health and safety

1) Reported risks and accidents

Risks mentioned by workers:	Insect and reptile sting or bite Falls due to steep terrain Back pain for loading bags Climate: heat and sun, rains Transportation accident (moto, quad or car) Infections and risk of abuse from other workers for not having toilets
Reported symptoms following activity:	Tired, headaches, dizziness Very hot Sore back, shoulders, waist, neck (from taking bags), arms, legs and feet Urinary infections for holding in the urge to urinate, vaginal infections for avoiding to change towel
Types of accidents reported:	Slips, trips and falls (incl. by carrying coffee and for not having toilets) Insect and reptile sting or bite Insolation Blow to the eyes by clinging to 1 tree Quad accident
Types of injuries reported:	Insect and reptile sting or bite, Lesions, cuts, abrasions, tendon tear Heat stress / dehydration Fractures
Work tasks resulting in accidents / injuries	Harvesting on steep slopes Carrying or loading bags/baskets/sacks Relieving oneself in the farm in the absence of toilet

2) Analysis of the risks related to the task and possible control systems

Key:

- Underlined = specific to the harvest task,
- **bold** = additional precision for vulnerable people,
- orange = some local realities.

Vocabulary: adolescents = working-age minors, aged 15 to 17 years old (Childhood and Adolescence Code, art 78). Costa Rica's law refer to them as "working adolescents".

RISKS	IN WHICH SPECIFIC STAGE(S)	HEALTH EFFECTS	CONTROL SYSTEMS (Preventive and corrective measures to be adapted to the ages)
Ergonomics: postural constraint / repetitive gesture / carrying a load	The work is carried out standing including with the arms above the shoulders. The worker has to move around carrying a basket around his waist. He also has to assume awkward and uncomfortable positions to reach the ripe grain. Risks aggravated by inadequate lifting of heavy loads, by ergonomically unsuitable equipment and tools (canasta), difficult terrain, etc.	Musculoskeletal disorders (chronic fatigue injuries, repetitive strain injuries)	- Reduce as far as possible load shifting, twisting, reaching or straining . Harvesting task: Provide the trucks with a small, stable and firm ladder that the producer may have, or with platforms to facilitate delivery. Local tips: Empty the basket more often ; use 3 empty bags in a "calle", and at the end of the line put everything in one of the bags. - Avoid prolonged exposure. Active breaks (stretching...). - Ergonomic design of tools and equipment Harvesting task: Use baskets with comfortable belts. Adapt the basket to the size of the persons. - Training in movements and postures. **- Because of their growing bodies and vulnerabilities with long-term effects, adolescents (as well as other vulnerable people) should be protected from prolonged repetitive work and forced postures:** reduction of the working day, rest periods and rotation of tasks. **- Minors and pregnant women should not handle loads** (coffee sacks, fertiliser bags, application equipment, water transport...) (Executive Decree No. 11074-TSS "Maximum manual load weight" art 2 gives references for load transport in ideal working conditions that are not seen on farms (flat ground, twist-free gesture...): 15 kg maximum for men from 16 to 18 years old, 10 kg for women, and load transport is prohibited before 16 years old).
Surface: slopes, ditches, steep areas, hazardous areas, landslide-prone areas **+ Other fall hazards**	Aggravated risks when working at fast pace or when combined with heavy loads, cutting tools, agrochemical products...	Falls, fractures, death.	-Signposting cliffs and landslide-prone areas - On new cultivation areas, create landings/terrace terrain - To avoid falls on the farm in general, keep roads clean. Harvesting task: Avoid placing sacks over workers' transit areas. - PPE: appropriate footwear - Training in basic emergency procedures. Have a first aid kit **- Minors and pregnant women should not work in hazardous areas** (in particular: deep ditches and steep slopes, steep areas prone to landslides).

Transportation of workers in unadapted vehicles	Daily transport of workers in the morning and evening Risks aggravated by rain, poor road conditions.	Accident, falls, injuries, muscle pain	**- In the case of migrants and their families,** who are dependent on producers for transport to farms, seek solutions to provide safer means of transport. - Seek community solutions to improve signs and road conditions.
Organization and division of labor / psychosocial	work is repetitive and monotonous, hours are long, pay is low	Mental health problems such as: stress, depression, irritability, anxiety, suicide. Heart disease and stroke.	- Control working time, identifying each worker and their tasks. Include in this working time the waiting times (for transport, weighing...). - Harvest task: Experiment with a remuneration system that is not based solely on the quantity of coffee cherries harvested. - Adapt the time and rhythm of work according to age, task and climate. **Reduce them and introduce a rotation of tasks for elderly, teenagers or pregnant women** (law 8922 - art 7: maximum 6 hours per day for teenagers, between 7 am and 7 pm). In the case of adolescents, **supervise** them and **enrich** the content of the experience, for example by developing it in an educational framework. **- For minors: the project proposes an educational programme to** connect them to agriculture with a broad vision of agriculture and in protective conditions appropriate to their age (minors under 15 years of age should not participate in farm work - Childhood and Adolescence Code - art 78).
Biological: wasps, caterpillars, ants, snakes, tortocuilos, spiders, ticks, dengue, leishmaniosis	All steps in the field	Stings, bites, serious injury from animal attacks, blows, skin lesions, zoonoses, even death.	- Keep the field clean (mowed). Carry out a pre-harvest inspection of the farm before receiving workers. Against mosquitoes: leave no water containers near the house or work places, dry puddles of water around the house as well. Implement mosquito nets in housing facilities. - Training (at community or farm level) on how to identify snakes, on risks (incl. for more vulnerable people), and on how to prevent them and react (incl. first aid). - PPE: appropriate clothing, incl. high, bite-resistant boots. Some use gloves in harvesting. - Mosquito repellent creams - Accessible first aid kit, with medicines for bites, anti-allergy tablets, etc. According to the local doctor, antiophidic serums are for institutional use and can only be found in the clinic.

			- Because the venom is more concentrated in their bodies and because they do not have the same experience as adults, **special care should be taken with adolescents**.
Humidity: rain	Working in the rain	Colds and flus	- Provide an indoor place to protect from heavy rain. Do not allow work in thunder. - PPE: adequate clothing and protection (coat, firm hat, boots).
Physical: Heat / sun	Working in the sun or under heat	Heat exhaustion, heat stroke, skin cancer, sunburn, dehydration and even kidney failure. Cataracts. Can increase the risk of injury: fogging of safety glasses (agrochemical applicators), sweaty palms (machete slips) and dizziness (slips, trips and falls).	- Avoid prolonged exposure **(even more so for vulnerable people)**: adapt the working day according to the sun, provide accessible shaded areas, ensure work/rest schedules are observed (Costa Rica Protocol "hydration, shade, rest and protection") (Ministry of Health's recommendation: short breaks in hot weather 5 to 10 minutes every hour). - Ensure availability of drinking water throughout the day. -PPE : appropriate clothing and protection: wide-brimmed hat or cap with neck and sleeve covering, use sunscreen when possible (Protocol). Sunglasses with UV protection, ideally for everyone, and at least for adolescents. - Training (ideally at community level): factors, signs and risks related to heat stress, procedures to follow, importance of hydration and regular CKD testing (Protocol). - Appoint a trained person who is able to inform the producer in case of signs of heat stress to modify work activities or work/rest schedule as required (Protocol). - Acclimatisation in the case of new or returning workers doing heavy work in hot weather (Protocol)
Chemical	The harvesting task itself doesn't imply any use of chemicals. However workers may be exposed to recent applications of chemicals in the zone	Skin and eye irritation, acute poisoning, chronic effects (central nervous system, liver, kidneys, blood, lungs, reproduction), death.	**- Minors must not participate in tasks involving contact with toxic substances** (law 8922 - art 5-e and 5-f). Nor pregnant or breastfeeding women. Keep products away from them and do not allow them to harvest if chemicals were recently* applied in the zone (for coffee or other culture). *Note that re-entry delays are typically calculated for adult males, who are less vulnerable than minors to toxic substances.

Mechanical: tools/machines	In case of accessible tools or machines in the plantation	Injuries, spills, blows, crushing, amputations	**- Keep tools, equipment and machinery away from minors.**
Flammable products	In case of accessible products in the plantation	Burns, suffocation	**- Keep flammable products away from minors.**
Sanitary facilities (basic sanitation, water, accommodation for migrants)	In case of absence or poor conditions in the workplace, and in eventual temporary or permanent living quarters	Diseases (malnutrition, dengue, parasites, intestinal and respiratory problems...). Sexual harrassment or abuse (e.g. when doing one's business in the field, or in promiscuous housing).	- Provide hygienically adequate toilet facilities for working people. - Ensure adequate health and hygiene conditions **for migrant workers and their families** in their temporary living quarters (latrines, drinking water, decent housing, promotion of hygienic habits, network access).

Note: The recommendations listed above complement cross-cutting recommendations on workforce management and OHS (such as establishing a simple OHS policy on the farm, identifying all persons involved in tasks and the tasks of each person, identifying risks, regularly evaluating measures, etc.).

TABLE: MITIGATING RISKS IN JOB TASKS FOR ADOLESCENTS

Based on the work of Lynda Diane Mull (from International Initiative to End Child Labor) for RHSF:

Severity	Assessment of current conditions	Controlling Conditions of Work*					
		Limiting hours, with breaks**	+ Work in non-steep areas	+ Using Organic Practices (No chemicals)	+ Use of Protective Clothing / Gear + Ergonomic Interventions***	+ Closely Supervised	+ Access to Clean Drinking Water and Toilet
Clearing and sorting coffee cherries	Minor	No Safety Effect					
Harvesting coffee	Major	Major	Major	Minor	Minor	Minor	No Safety Effect

*This assumes the use of no sharp cutting tools, such as the machete, or working in steep terrain.
**Hours need to be adjusted according to the task assigned, conditions (temperature etc.) and age of the worker. Periodic breaks should be allowed during each hour of work.
***To address the potential of musculoskeletal disorders, potentially simple ergonomic interventions are needed with the buckets for harvesting coffee, types and weight of tools, etc. Many of these can be learning activities that adolescents build themselves. This also includes preventing reach radius of less than 20 inches (0.508 m).

V- Workforce skills for this task

Specific steps	**Associated skills**
All steps	Rigour, meticulousness, concentration Knowledge of coffee growing cycle Abitility to recognize ripe coffee to make an appropriate selection (not color blind)
Measure at the end of the day	Math skills Recordkeeping of buckets/tins of coffee

Please feel free to test this framework in your own initiatives to better protect people in the agriculture and nurture their future projects.

If you want more information on our approach, please contact us at contact@rhsansfrontieres.org.

SOURCES:

- RHSF's local observations, interviews and workshops with workers in the field.
- Analysis and previous experiences of RHSF and IIECL (Lynda Diane Mull) in coffee growing in Panama, Nicaragua, Colombia and Costa Rica (2005-2022). E.g.: Lynda Diane Mull (IIECL) and Martine Combemale (RHSF), "Analysis of Risks Associated with Job Tasks and Activities Performed by Children, Youth and Adults in Coffee Production on Select Farms in Jinotega, Nicaragua", 2011.
- Costa Rican law and the national Consejo de Salud Ocupacional's report "Ocupaciones y tareas peligrosas e Insalubres para la Persona Adolescente Trabajadora" (2003).
- External publications, in particular:
    - International Labour Organisation (ILO), *Estudio de condiciones y medio ambiente del trabajo infantil en la agricultura: café, Costa Rica*, 2003.
    - International Labour Organisation (ILO), Condiciones *y medio ambiente del trabajo infantil peligroso en el cultivo del café, con enfasis en la etapa de la cosecha*, 2015.
    - Instituto del Café de Costa Rica (ICAFE), *Guía técnica para el cultivo del café*, second edition october 2020