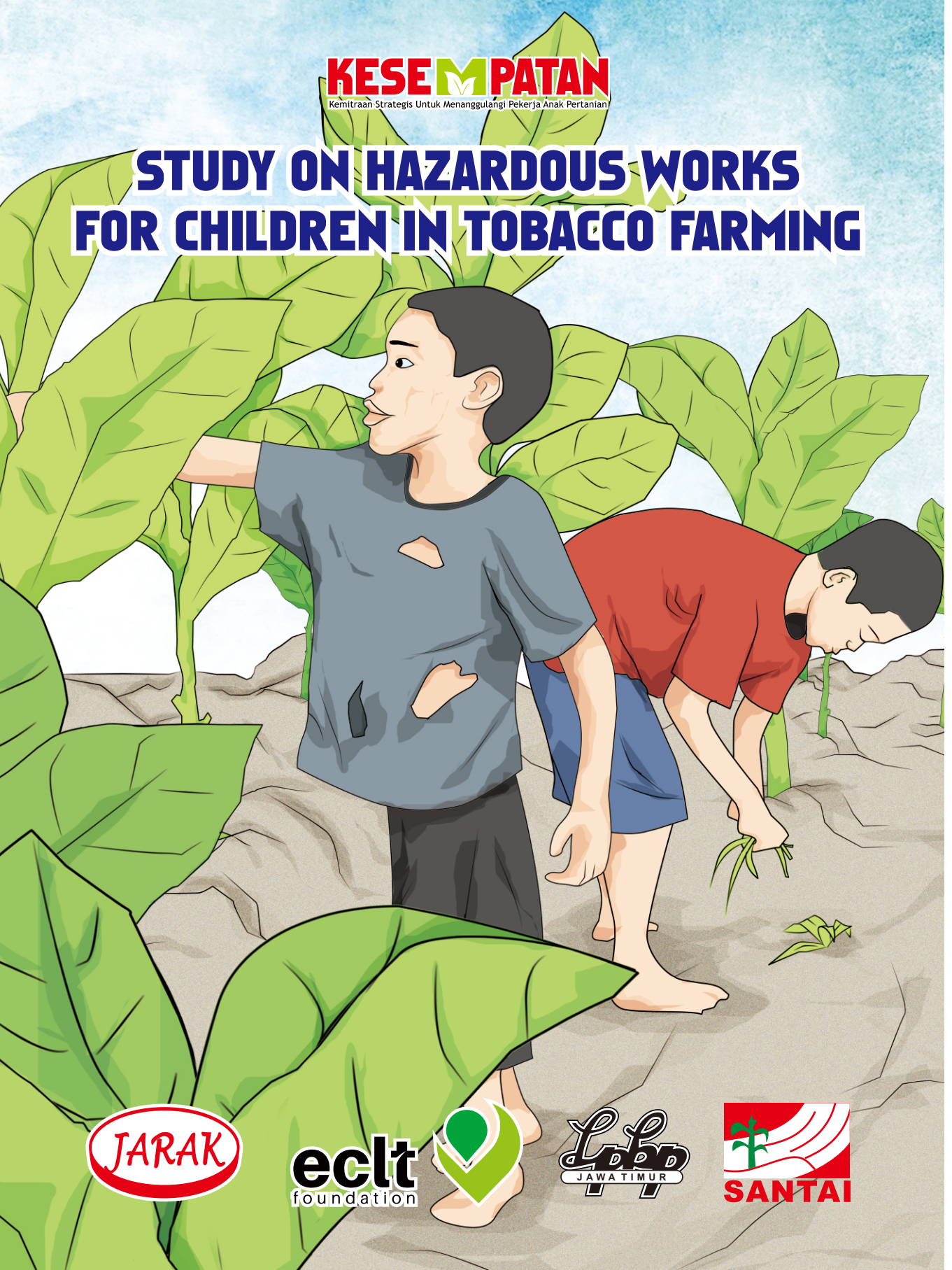
KESEMPATAN

Kemitraan Strategis Untuk Menanggulangi Pekerja Anak Pertanian

STUDY ON HAZARDOUS WORKS FOR CHILDREN IN TOBACCO FARMING



JARAK

eclt foundation

LPP JAWA TIMUR

SANTAI

FOREWORD

The agricultural sector is of particular concern in efforts to eliminate child labour. This is because the agricultural sector is one of the sectors that have the potential to involve children to work. Some children work on the family farm, some others work on the third party farm by receiving wages. The agricultural sector is also considered as one of the sectors that has a high risk of harm due to work tools, working methods, working time and the use of harmful chemicals, such as the use of pesticides or herbicides, etc.

Working in agriculture including in tobacco farming is common for children where they involve in land processing, breeding, planting, caring to harvesting and processing tobacco products. Children's involvement in the work cycle in the tobacco farming sector is considered a way to "learn" to work as a provision when they grow up. Working on tobacco farming is also a tradition that has been practiced by previous generations. Some children do the works outside the school time, but some others "willingly" take time off from school or even quit school to earn income from working in agriculture.

We highly appreciate the study conducted by JARAK together with LPKP in East Java and Yayasan SANTAI in West Nusa Tenggara which assess the potential involvement of children in the tobacco farming work cycle. We hope this Study can be a guide for all parties in jointly eliminating child labour, in particular the worst forms of employment for children in the tobacco farming sector and in taking measures to prevent the involvement of children in the work cycle in tobacco farming. Further, this Study also provides information on works in the work cycle on tobacco farming that is categorized as hazardous to the safety and health or morals of children so that prevention and protection efforts can be made.

This Study is useful as it identifies the stages of work in the tobacco farming sector and analyzes the potential hazards and risks of each stage of work, especially for children. I welcome this study and hope it will be a positive contribution to the implementation of the elimination of the worst forms of child labour.

On this occasion, we would like to also convey our high gratitude, especially to the late Mr Achmad Marzuki, Executive Director of JARAK, along with other partners who have produced work that is beneficial for the advancement of child labour elimination programs. We would also like to express our gratitude to ELCT, through the KESEMPATAN Project, for its support of this study.

Finally, let's do our best to protect children. Let's together **"Build the Future of Our Nation Without Child Labor"**.

Director of Employment
Norms Inspection

Yuli Adiratna

Acknowledgement

The Diagnostic Study of Child Labour in Rural Areas (with Special Emphasis on Tobacco Farming) conducted by SMERU (2018) identified that 36 out of 62 activities within tobacco faming were hazardous for children. The Diagnostic Study also found out several important findings. First, the lack of knowledge and information of farmers and the families regarding the issues of child labour and hazardous works. Second, the high involvement of children in the post-harvest period, in particular, the increased involvement of children aged 5-12 years. Third, the motivations for children to be involved in agriculture works are to earn money by working for other people and to help their parents by working in the family's farm. Fourth, both school or non-school children are involved in tobacco farming due to lack of facilities to spend their leisure time. Fifth, all children involved in the tobacco farming process are exposed to hazardous work. These findings emphasize the importance to take necessary steps in increasing the knowledge and awareness of farmers and their families to not involve children in hazardous works.

With the support of the ECLT Foundation, KESEMPATAN Project which is implemented by JARAK in collaboration with LPKP in East Java and the SANTAI Foundation in West Nusa Tenggara, assess works/activities in tobacco farming to identify whether a particular work or activity falls under the category of hazardous work for children. The study result will be used to raise knowledge and awaraness of farmers and farm workers and other stakeholders, including the implementing partners of the KESEMPATAN Project to prevent and ensure that children are not involved in hazardous works.

We hope the study results can contribute to the efforts of child labour elimination, particularly in the agricultural sector, and will further contribute to the realization of a Child Labour-Free Indonesia and child-friendly agriculture in Indonesia. We extend our sincere gratitude to ECLT Foundation for their support for this study.

Jakarta, August 2020
The NGOs Networks for elimination of Child Labour in Indonesia (JARAK)

Achmad Marzuki
Executive Director

Table of Contents

1

Introduction

The agricultural sector harbours most of child labour. According to the ILO, globally, 71% of children in child labour or about 152 million children were found to be working in the agricultural sector in 2018.[1] Meanwhile, the Indonesian Child Labour Survey (ICLS) found that 58% of children in child labour aged 5 to 17 years worked in this sector in 2009.[2] Some of them work on their family's land without pay. But there are also those who work for the third party's farms for earnings. Unfortunately, there is not more recent data on the number of children in child labour in agriculture in Indonesia.

Agriculture sector is considered as one of the sectors which expose many occupational hazards to workers of all ages, especially for children.[3] Children who work in agriculture may use heavy machinery or sharp tools, be exposed to pesticides, work long hours, and work in extreme weather.

Both international conventions and national regulations in Indonesia prohibit children to work or be employed in hazardous works. Through **the Minister of Manpower Decree No. 235 of 2003 concerning Types of Work that Endanger the Safety, Health and Morals of Children**, the Government of Indonesia have determined the working conditions in which children are prohibited from working and being employed as these condition present certain hazards and risks to children. This list of working conditions in the Decree applies to all works in general and to all sectors and becomes the parameter in determining whether or not a work is hazardous for children.

[1] ILO, Ending Child Labour by 2025: A Review of Policies and Programmes, Geneva, 2018

[2] ILO dan BPS, Pekerja Anak di Indonesia, Jakarta, 2009

[3] https://www.ilo.org/infostories/en-GB/Stories/Child-Labour/Child-Labour-In-Agriculture#the-nature-of-child-labour

To support the elimination of child labour in the agricultural sector where child labour is the most prevalent, JARAK (NGO Network for the Elimination of Child Labour in Indonesia) and PAACLA (Partnership for Action against Child labour in Agriculture) plan to develop list of hazardous works/activities for children in the agricultural sector. As the first step, JARAK and PAACLA conducted the study in tobacco farming. PAACLA is a partnership organization established in 2018 by organizations from government sector, civil society and private sectors, including a number of tobacco companies in Indonesia. Moving forward, JARAK and PAACLA will conduct similar studies for other agricultural sectors. The results of this study will be used to train farmers and farm workers to increase their knowledge on hazardous works for children in their working environment.

Child Labour in Tobacco Farming

According to the Food and Agriculture Organisation (FAO), Indonesia is the fifth largest tobacco producing country in the world with around 550,000 tobacco farmers.[4] In 2016, tobacco was grown in 15 provinces throughout Indonesia but 90% of tobacco came from 3 (three) provinces only, East Java, Central Java, and West Nusa Tenggara. Furthermore, in 2016 about 99% of tobacco was grown by smallholder farmers.[5] Farmers usually rotate their tobacco cultivation (about 4 to 5 months a year) with several other crops such as rice or vegetables for their own consumption.

A range of studies show that children, both girls and boys, are involved in tobacco farming activities that are planted once a year. The diagnostic study conducted by SMERU in 2016 found a relatively high prevalence of child involvement in tobacco farming in 5 (five) tobacco-producing villages in Jember District, East Java, namely 8% and 5 (five) tobacco-producing villages in East Lombok District, West Nusa Tenggara, which is 23%.[6] This study also found the lack of knowledge of farmers and the families about the issue of child labour

[4] Human Right Watch, *The Harvest is in my Blood: Hazardous Child labour in Tobacco Farming in Indonesia*, 2017

[5] Directorate General of Plantation, Ministry of Agriculture, *Statistik Perkebunan Indonesia 2015 - 2017: Tembaka*u, 2016

[6] SMERU and ECLT, *Studi Diagnostik Pekerja Anak di Wilayah Perdesaan (dengan Penekanan Khusus pada Perkebunan Tembakau Rakyat*, 2018, p. 15

and hazardous work and the high involvement of children in the post-harvest period, in particular, the increased involvement of children aged 5-12 years.

Identification of children's motivations of their involvement in agriculture works finds at least two main motivations: earning money by working for other people and helping parents by working in the family's farm. Another important finding was that school as well as out of school children were involved in tobacco farming because there were lack of facilities to spend their leisure time and that all children involved in the tobacco farming process were exposed to hazardous works.

In 2019, with support from the ECLT Foundation, SMERU also conducted a baseline survey on child labour in tobacco farming in several villages in Probolinggo District of East Java Province and in East Lombok District of West Nusa Tenggara Province. In line with the findings of the previous study, the baseline survey found the prevalence of children in child labour was 10.7% in the research villages in Probolinggo District and 70.4% in the research villages in East Lombok District.[7]

[7] SMERU, *Baseline Study on Child Labour in Tobacco Growing Areas*, Jakarta, 2020

2

Child Labour Legal Framework

Child labourer is different from working children. Working children do works which are appropriate for them and this can be a normal part of growing up as it encourages a sense of responsibility in children and introduces children to the work in their surroundings. Works which are appropriate for children include tasks that are not harmful to their health and development and do not interfere with their school activities. Meanwhile, child labour is a violation of children's rights, a form of labour that deprives children of their childhood. Child labourers perform works that is mentally and physically dangerous and harmful to children which affect their education and personal development.

Given that working activities for children can have a negative impact on children, the international and national communities have regulated the involvement of children in the world of works. The legislative and regulatory framework in Indonesia concerning child labour are mapped out in the following summary table.

Table 1
Summary of the Legal Framework Relating to Child Labour in Indonesia

No.	CONTENTS OF REGULATIONS		LEGAL FRAMEWORK
1.	Child	A person who is not yet 18 (eighteen) years old, including the child who is still in the womb	Law No. 23 of 2002 concerning Child Protection, Article 1 paragraph 1

2.	Child protection from economic exploitation	The government, local governments, and other state institutions are obliged and responsible for providing special protection to children. Special protection is given, among others, to children who are economically exploited.	Law No. 35 of 2014 concerning Amendments to Law No. 23 of 2002 on Child Protection, Article 59 paragraphs 1 and 2
		Special Protection for Children who are economically and/or sexually exploited through: a. disseminating the provisions of laws and regulations relating to the protection of children who are economically and/or sexually exploited; b. monitoring, reporting and imposing sanctions; and c. involving various companies, trade unions, non-governmental organisations and communities in the elimination of exploitation of children economically and/or sexually.	Law No. 35 of 2014 concerning Amendments to Law No. 23 of 2002 concerning Child Protection, Article 66
3.	Light Work	1) Children aged between 13 (thirteen) to 15 (fifteen) years old can do light work as long as it does not interfere with their development and physical health as well as mental and social health. 2) Employers who employ children in light work must meet the requirements: a) written permission from parents or guardians;	Law No. 13 of 2003 concerning Manpower, Article 69 paragraphs 1, 2, and 3

		b) a work agreement between the employer and the parent(s) or guardian; c) maximum working hours of 3 (three) hours; d) the works are to be conducted during the day and does not interfere with school time; e) Occupational Health and Safety (OSH); f) there should be a clear working relationship; and g) the child receives wages in accordance with applicable regulations. 3) The provisions of letters a, b, f and g above are exempted for children who work in their family businesses.	
4.	The general minimum age to work	The minimum age allowed to work in general in Indonesia is 15 years.	Declaration of minimum age allowed to work, attachment to Law No. 20 of 1999 concerning the Ratification of ILO Convention No. 138 concerning Minimum Age for Admission to Work
5.	Prohibition of employing children (those under 18 years of age) in the Worst Forms of Child labour (WFCL)	Anyone is prohibited from employing and involving children in worst form of child labour, which include: a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt	Law No. 13 of 2003 concerning Manpower, Article 74 paragraphs 1, 2, and 3

		bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict; b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances; c) the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties; d) work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.	
6.	Prohibition of employing children (those under 18 years of age) in types of work that endanger the health, safety or morals of children	1. Types of Work that Endanger the Health and Safety of Children: a. Work related to machines, aircraft, installations, and other equipment; b. Work carried out in hazardous work environments (physical hazards, biological hazards, chemical hazards); c. Work that contains certain hazardous properties and conditions: • Building, bridge, irrigation or road construction work; • Work carried out in wood processing companies such as logging, transport and loading and unloading;	Minister of Manpower Decree No. 235 of 2003 concerning Types of Work that Endanger the Safety, Health, and Morals of Children

		• Manual lifting and transporting loads over 12 kg for boys and over 10 kg for girls; • Work in locked working area; • Fishing work in offshore or in deep sea waters; • Work carried out in isolated and remote areas; • Work on ships; • Work carried out in disposal and processing of waste or recycling of used goods; • Work carried out between 6 p.m. to 6 a.m. 2. Types of Work that Endanger the Moral of Children a. Work in a bar, discotheque, karaoke, billiard, cinema, massage parlor or any location that can be used as a place of prostitution; b. Work as a model for the promotion of liquor, sexuality stimulants and/or cigarettes.	
7.	Children are allowed to do work in the workplace as a part of the educational curriculum	(1) Children, at least 14 years old, can do work in the workplace which is part of the education or training curriculum approved by the authorized official. (2) The work that can be done must meet the following requirements: a) provide clear instructions on how to carry out the work as well	Law No. 13 of 2003 concerning Manpower, Article 70 paragraphs 1, 2, and 3

		as guidance and supervision in carrying out the work; and b) provide occupational safety and health protection.	
8.	Children can do work to develop talents and interests	1. Children can do work to develop their talents and interests. 2. Employers who employ children for the purpose of developing talents and interest must meet the following requirements: • under the direct supervision of a parent or guardian; • maximum working time of 3 (three) hours a day; and • working conditions and environment do not interfere with physical, mental, social, and school time development.	Law No. 13 of 2003 concerning Manpower, Article 71 paragraphs 1 and 2
9.	Children present at workplace	Children are considered to be working when they are at the workplace, unless it can be proven otherwise.	Law No. 13 of 2003 concerning Manpower, Article 73

3

Hazardous Works for Children on Tobacco Farming

Scope

In accordance with applicable regulations in Indonesia, children cannot be employed or involved in hazardous works. Hazardous work is defined as work in dangerous or unhealthy conditions that can endanger the health, safety, and mental health of children. These types of work have been determined by the **Minister of Manpower Decree No. 235 of 2003 concerning Types of Work that Endanger the Safety, Health and Morals of Children**.

The study on hazardous works for children in tobacco farming complements the list of types of hazardous work that have been established through the above the Ministerial Decree. The study identified the hazardous works specifically in tobacco farming by analyzing the potential hazards and risks of these works. Hazard can be defined as something that can cause harm. A risk, on the other hand, is defined as the likelihood of a person being injured or receiving an adverse effect due to a hazard.

Study Methodology

The study of hazardous works for children in tobacco farming is developed using the following methods and process:

1. The identification of the stages of work in tobacco farming from preparation to post-harvest was carried out through interviews with tobacco farmers in villages in East Lombok District, West Nusa Tenggara Province and Jember District, East Java Province.
2. The findings from the above process were then combined with the list of work in tobacco farming produced by SMERU study. Tobacco companies which are members of PAACLA Indonesia also provided inputs regarding the stages of work in tobacco farming.
3. Analysis of the potential hazards and risks of each stage of work is carried out using an Occupational Safety and Health (OSH) perspective in which there are five types of hazards as follows:

a. Physical hazards: hazards in the workplace that are physical in nature include noise, lighting, vibration, work climate, microwaves and ultraviolet rays. These factors may result in certain undesirable parts of the production process.
b. Chemical hazards: hazards originating from chemicals. Many chemicals that have toxic properties can enter the bloodstream and cause damage to body systems and other organs. Hazardous chemicals can be in the form of solids, liquids, vapours, gases, dust, smoke or mist and can enter the body through three main ways, namely inhalation, digestion (swallowing), and absorption into the skin or invasive contact.
c. Biological hazards: hazards originating from invisible animals or microorganisms that are around the workplace and can enter the body without being noticed so that a lot of case handling is done after workers are infected.
d. Ergonomic hazard: the danger that comes from the incompatibility of the work design (work, task, environment) with the capacity of the worker's body, causing discomfort in the body, aches, pain in muscles, bones and joints. In children it can even cause physical deformities and growth problems.
e. Psychosocial hazards: hazards arising from the interaction between job characteristics, job organization and management, working conditions and environment, with the competence and needs of workers.

4. Identify whether or not a work in a certain stage of work in tobacco farming can be carried out by children under 18 years of age (not yet having the 18th birthday), children aged 15-17 and children aged 13-14 years using the following legal parameters:
   a. A work should not be carried out by children under 18 years of age if a health and safety analysis identify potential hazards and potential risks that endanger the health and safety of workers. Manpower Law No. 13 of 2003, Article 74 paragraph 1, states that anyone is prohibited from employing and involving children in the worst forms of work and one of the worst works is a work that endangers the health, safety and morals of children.
   b. A work assignment can be carried out by a child aged 15 years (15 years old) to 17 years old (not yet 18 years old) if the work does not contain potential hazards and risks to the child's health, safety and morals as stated in the **Minister of Manpower Decree Work No. 235 of 2003 concerning Types of Work that Endanger the Safety, Health and Morals of Children**. The declaration of minimum age which is an inseparable attachment to Law no. 20 of 1999 concerning the ratification of **ILO**

Convention No. 138 concerning Minimum Age for Admission to Work stipulates that the minimum age for admission to employment in Indonesia is 15 years.

c. Children aged 13 and 14 are allowed to do light work as stipulated in the **Manpower Law No. 13 of 2003 concerning Manpower,** Article 69 paragraphs 1, 2 and 3, as follows:
   1) Children aged between 13 (thirteen) to 15 (fifteen) years old can do light work as long as it does not interfere with their development and physical, mental and social health.
   2) Employers who employ children in light work must meet the following requirements:
      a. written permission from parents or guardians;
      b. a work agreement between the employer and the parent(s) or guardian;
      c. maximum working hours of 3 (three) hours;
      d. the works conducted during the day and does not interfere with school time;
      e. Occupational Safety and Health (OSH);
      f. there is a clear working relationship; and
      g. the child receives wages in accordance with applicable regulations

   The provisions of letters a, b, f and g above are exempted for children who work in their family businesses.

Use and Dissemination of Study Results

The study produced a list of works in tobacco farming which is completed with indications whether the works can be done or prohibited for children or certain age group of children. The list is intended to be a reference in facilitating learning activities for farmers and farm workers in tobacco farming. This list will be disseminated and trained to farmer groups, agricultural supervisors, and other related parties, such as leaf technicians of tobacco companies.

5 Types of Hazards in Tobacco Farming

Physical Hazard
Noise, heat, cold, vibration, light radiation

Chemical Hazard
Acids, bases, solvents, organic, heavy metals, pesticides, green tobacco sickness (GTS)

Psychosocial Hazard
Excessive workload, unclear tasks, conflict with friends or family, stress

Biological Hazard
Bacteria, insect viruses, parasites, wild animal attacks

Ergonomic Hazard
Monotonous work, repetitive, lifting weights

4

List of Works in Tobacco Farming and Assessment of its Hazards and Risks to Children

The occupational safety and health analysis of the stages of work in tobacco farming found potential hazards and risks to children at many stages of work. Therefore, children or those under 18 years of age are prohibited to perform these works. The following are the stages of work in tobacco farming and its potential hazards and risks to children. While the assessment of hazards and risks to children are done to all works in tobacco farming, it does not imply that children are involved in all of these works.

Land Preparation

Land Clearing

Land clearing is to prepare agricultural land to be ready for planting. This activity involves weeding the grass and cleaning the remaining plants from the previous planting season. If the land is large enough and the root of plants from previous planting season holds deep into the earth, land clearing is carried out using a tractor. After the land were cleared from the root, the following works of land clearing activity is usually done manually by hand, hoe, sickle or machete.

For land that is not too large, clearing is done manually. Grass traces and the rest of the previous planting season are usually collected at one point to be burned or left to dry.

However, there are also farmers who use chemical weed killers to make the land clearing faster.

Potential Hazards and Risks to Children

Weeding the grass is done using hoes, sickles and machetes. The use of this equipment can potentially injure the users. Grass and plant debris also have the potential to injure children because they have sharp edges and have the potential to cause itching on the child's skin. If the land clearing process uses herbicides, excessive loads when carrying the spray pump or when carrying buckets of liquid potentially expose children to muscle fatigue in the shoulders and arms. Repetitive movements also expose children to the same risks. In addition, the use of chemicals exposes children to the risk of poisoning.

In the open-air, the process of clearing land exposes children to potential bites by wild animals such as snakes and insects. Clearing the land during the day exposes children to sunburn which may result in dizziness, dehydration and skin irritation. If land clearing activities are carried out intensively, children have the potential to experience excessive fatigue. Weeding activities carried out in a squatting position can expose children to ergonomic hazards such as sore feet and spine pain. If the land clearing activity is carried out during chool hours, it is likely to interfere with children's learning time. Likewise, if land clearing is done outside school hours, it is likely to reduce children's play time.

Potential Hazards and Risks during Land Clearing

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (hoe, sickle, and machete).	Cut
	Exposure to sun[8]	Dizziness
		Dehydration
		Skin irritation
Chemical Hazards	Weed killer	Poisoned
Biological Hazards	Wild animal bite (snake or insect)	Bitten or Stung by wild animal
	The sharp side of the grass	Itchy rash

[8] Being in the hot sun for a few hours or for long periods of time can result in discomfort, dizziness, irritation and dehydration. The child will also experience excessive fatigue because of this.

Ergonomic Hazards	Be in a squatting position for weeding[9]	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	The scythe movement	
	Heavy load	
	Inconvenient use of equipment	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Land clearing activities should not be carried out by children with the following considerations:

1. Sharp tools and materials used to clear land are harmful to children.
2. Children have the potential to be attacked by wild animals such as snakes and insects.
3. Land clearing time is carried out throughout the day, sometimes at night.
4. Potential to interfere with children's school time and reduce children's play time.

[9] Movement of the body that is not ergonomic and done repeatedly will cause muscle, ligament and tendon disorders

Burning Grass and Crop Remnants

The land for cultivation is first cleared of weeds. Weeded grass and crop residues are collected at one point on the farm and then burned. Burning is the last activity in land clearing and to be done after weeding is completed. For burning grass and crop remnants, farmers use dried grass and twigs to make the fire.

Potential Hazards and Risks to Children

Positioning a child too close to flames creates the risk of being exposed to fire and smoke which can irritate the eyes and respiratory tract. Smoke from the combustion has the potential to be inhaled by a child and this can cause the child to experience shortness of breath and irritation of the conjunctival membranes of the eyes and irritation of the respiratory tract. Collecting grass and crop debris from the previous season exposes

children to the hazards of being bitten by insects and other venomous animals as well as being injured by the sharp edges of grass and plant debris. Standing too long to keep the fire burning and not spreading from the point of the combustion exposes the child to ergonomic hazards. If the activity of burning grass and crop residues from the previous season is carried out during the school time , there is a risk of disrupting children's learning time. Likewise, if the burning is done outside the school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Burning Past Grass and Plant Remnants

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Exposure to sun	Dizziness
		Dehydration
		Skin irritation
	Hot fire	Burned, harmed by sparks
	Sparks	
	Fall into the fire	
Biological Hazards	Excessive inhalation of smoke[10]	Asphyxiated
		Respiratory tract irritation
Ergonomic Hazards		Irritation of the conjunctival membranes of the eyes
	Bitten by the insect(s)	Itchy rash
	The sharp edges of grass and plant debris	
Ergonomic Hazards	Standing too long	Aches
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

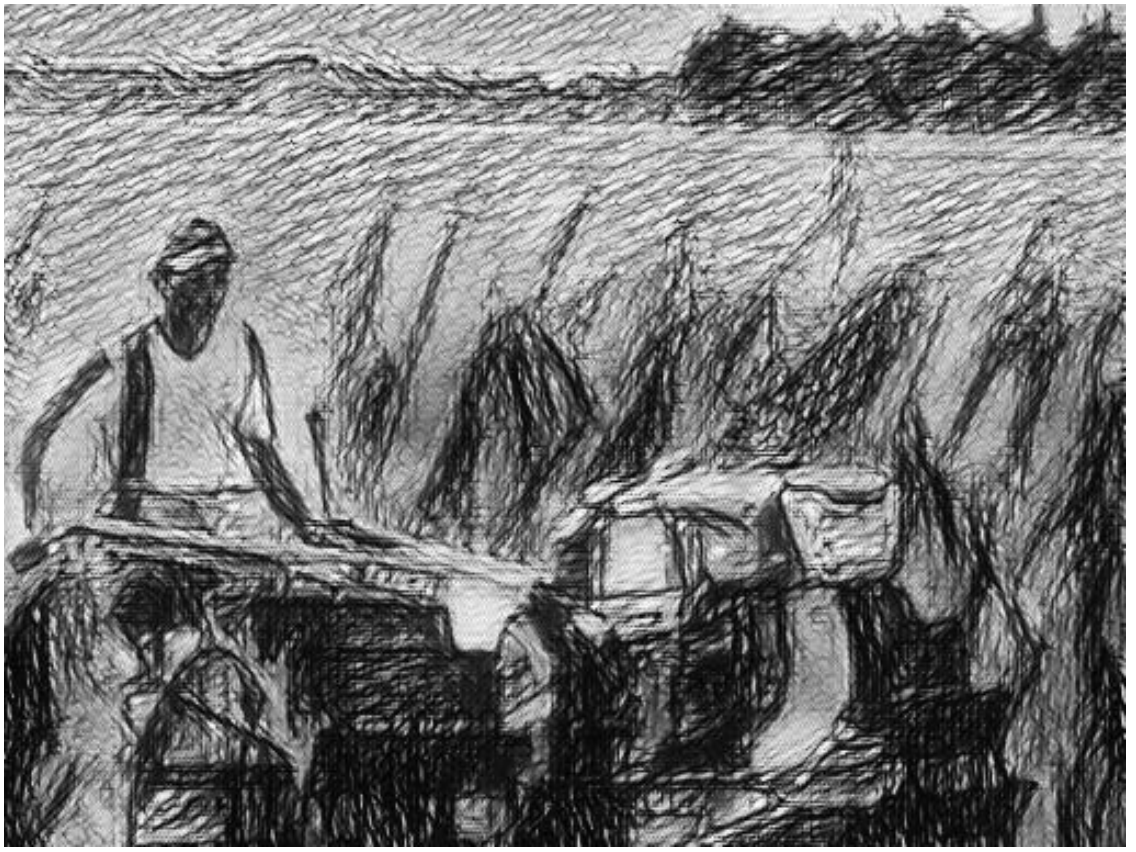
[10] The fumes from burning materials contain hazardous materials which when entering the respiratory tract will cause irritation, even CO, NO2 and SO2

Conclusion

Children should not burn grass and plant residues for the following reasons:

1. The child has the potential to be burned or exposed to sparks.
2. The child has the potential to inhale smoke excessively.
3. Potential to interfere with children's school time and reduce children's play time.

Land Ploughing



Land ploughing is carried out to loosen the land and at the same time clear the land. Generally, it is carried out by hoeing or using a tractor depending on the size of the land and the amount of labour used. Ploughing is carried out at least 2 times to prepare the best media for the tobacco cultivation process by maintaining soil fertility.

However, not all of the land that will be planted with tobacco is ploughed. Some are just covered with straws in order to maintain the soil moisture and the planting distance.

Potential Hazards and Risks to Children

Tractor engines are dangerous equipment for children and exposes children to physical hazards. Children playing with the tractor engine can fall off the machine or hit the tractor.

The use of straw to cover the land (when ploughing is not done), has the potential to injure the child because it has sharp edges and has the potential to cause itching on the child's skin. If the activities are carried out during school hours, there is a risk of disrupting children's learning time. Likewise, if it is carried out outside the school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Land Ploughing

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Exposure to sun	Dizziness
		Dehydration
		Skin irritation
	Tractor engine vibration[11]	Lower back pain
	Get on the tractor engine when the engine is off	Fall, hit the engine
	Play around the tractor engine while the engine is off or in use	Being grazed or hit or run over by a machine
Biological Hazards	Bacteria in the soil[12]	Itching, allergies, illness
	Bacteria in the water	
	The sharp side of straw	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

[11] The vibration of an object which exposes the body for a long time will have various impacts according to the amplitude and speed of the vibration. In general, disorders can occur in the joints, muscles and nerve palpation.

[12] Soil borne diseases are some diseases that occur due to disease agents originating from the soil. Soil, which is the top layer of the earth, accommodates various kinds of materials that are likely to become disease agents such as microorganisms, pesticides, herbicides, fungicides, animal by-products whose feces are used as fertilizer, including waste. A child with his own characteristics does have a risk when working with soil.

Conclusion:

Ploughing activities using tractors or not using tractor should not be carried out by children for the following reasons:

1. Using a tractor requires expertise and adequate skill to operate the tractor.
2. Tractor engines and vibrations are harmful to children.
3. Covering the land using straws exposes children to various biological hazards.
4. Potential to interfere with children's school time and reduce children's play time.

Making Soil Mounds (*Guludan*)

Soil mounds are made so that tobacco can grow properly, but not all tobacco farming uses mounds systems. Soil mounds can prevent plant roots from being flooded by water which will interfere with tobacco growth. The two most important things that will be hampered if mounds are not made are the absorption of water and nutrients. Water stress occurs not only when plants are deprived of water but also when there is inundation or excess water. If this happens, the plant will experience stress and its growth is stunted.

Potential Hazards and Risks to Children

The use of hoes to make mounds exposes children to the danger of sharp objects that could injure the child. Apart from using hoes and multipliers, some also use a hand tractor. The vibration of the hand tractor has the potential to cause arm vibration syndrome. Disorders can occur in blood vessels and nerves. In an advanced phase this disorder can cause numbness in the affected area. Making mounds during the day exposes children to sunburn which results in dizziness, dehydration, and skin irritation. The fact that it is done in a bent position to hoe can expose children to ergonomic hazards such as sore feet and spine pain. Further, if making mounds is carried out during school hours, there is a risk

of disrupting children's learning time. Likewise, if it is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Making Soil Mounds

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (hoe, sickle, multiplier and machete)	Cut
	Exposure to sun	Dizziness
		Dehydration
		Skin irritation
	Tractor engine vibration	Lower back pain
		Disorders of blood vessels and nerves
		Numbness in the affected area
Biological Hazards	Wild animal bite (snake or insect)	Stung
Ergonomic Hazards	Be in a hunched position to hoe	Back and waist pain, arm, shoulder pain and injured muscles and ligaments in the child's body if done for a long time
	Movement of the hoe	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

The activity of making soil mounds should not be done by children for the following reasons:

1. The sharp tools used (hoes, sickles, multipliers, machetes, and tractor machines) to make mounds endanger children.
2. Children have the potential to be attacked by wild animals such as snakes and insects.
3. Potential to interfere with children's school time and reduce children's play time.

Making Drainage

Tobacco is able to thrive in dry land and rice fields that have good drainage. Tobacco plants do not want excessive/stagnant water which can cause wilting/perching if there is standing water for a long time. Therefore, tobacco cultivation must begin by preparing the land well, including making drainage channels in the middle and around the tobacco farms. Drainage aims to regulate the amount of water content. Lack of water and excessive water will inhibit respiration so that plants wither easily.

Potential Hazards and Risks to Children

Drainage made during the day exposes the child to sunburn which causes dizziness, dehydration and skin irritation. The use of hoes, sickles and machetes to make drainage exposes children to the danger of sharp objects that could injure them. Making drainage

in a bent position to hoe can expose a child to ergonomic hazards such as sore feet and spine pain. If the drainage construction is carried out during school hours, there is a risk of disrupting children's learning time. Likewise, if drainage is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Creating Drainage

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (hoe, sickle, and machete)	Cut
	Exposure to sun	Dizziness
		Dehydration
		Skin irritation
Biological Hazards	Wild animal bite (snake or insect)	Stung
Ergonomic Hazards	Be in a bending position[13] to hoe	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Hoeing movements	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Children should not do drainage activities for the following reasons:

1. Sharp tools used (hoes, sickles, multipliers, machetes,) to raise mounds *(guludan)* are harmful to children.
2. Children have the potential to be attacked by wild animals such as snakes and insects.
3. Potential to interfere with children's school time and reduce children's play time.

[13] Bending position with weight is a very unfavorable position ergonomically. If this is done for a long time and over and over again, it has the potential to cause interference with the muscles and spine

Nursery

Selecting Types of Seeds and Soaking Seeds

Seed is a means of production that determines the yield of tobacco because each seed has genetic traits and characteristics that affect plant growth and production. Selection of seeds is determined by high purity, not mixed with damaged seeds, dirt or weed seeds, germination capacity above 80% and free from pests and diseases. In addition, seeds are also selected based on the type of tobacco to be planted.

To increase the germination of seeds, the seeds were soaked in water and various saline solutions, and using organic materials. There are also those who use chemical solutions to increase the germination of seeds. After soaking, draining is required to remove toxins that dissolve in the water used to soak the seeds. To obtain seeds, farmers usually buy or process their own seeds from tobacco plants planted in the previous season.

Potential Hazards and Risks to Children

Small, fine and light seeds can be inhaled by children when sorting. Children also have the potential to be exposed to biological hazards when mixing seeds with water. If the seeds are taken from plants planted in the previous season, the use of sickles to cut tobacco plants exposes the child to potential injury. If the activity of selecting the type of seeds and soaking the seeds is carried out during school hours, there is a risk of disrupting children's learning time. Likewise, when picking the type of seeds and soaking the seeds is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Selecting Seed Types and Soaking Seeds

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp object (sickle)	Cut
Chemical Hazards	Chemical liquids for growth enhancer[14]	Poisoned
Biological Hazards	Bacteria in the water	Itching, allergies, illness
Ergonomic Hazards	Repetitive movements in a static position when selecting seeds	Aches
		Muscle, ligament and tendon disorders
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Children should not choose the type of seeds and soak the seeds for the following reasons:

1. The tool used (sickle) to extract the seeds from the tobacco tree is harmful to the child.
2. Germinating fluids that contain chemicals put children at risk of being poisoned
3. Potential to interfere with children's school time and reduce children's play time.

[14] The use of chemical liquids as a growth enhancer may pose a health risk to humans if they are exposed to certain parts of the body.

Cultivating Soil for Beds

The nursery process which aims to prepare the seedlings, is generally carried out on a plot of land (beds) or using polybags. The nursery process is carried out directly on the agricultural land to be planted or somewhere around the farmers' house. The soil for the nursery is prepared in such a way that the soil becomes loose and fertile. Hoes and hand shovels are used to loosen the soil and fertilisers are added to increase soil fertility.

Potential Hazards and Risks to Children

Using hoes and hand shovels exposes children to the risk of sharp objects that could injure them. Fertilizers used to increase soil fertility also contain chemicals that can poison children. In addition, bacteria found in the soil can expose children to diseases. The activity of hoeing for a child will give excessive burden that can cause muscle and joint disorders if done for a long time and repeatedly. If the activity of preparing beds is carried out during

school hours, there is a risk of disrupting children's learning time. Likewise, if it is done outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Cultivating Soil for Beds

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (hoe, sickle, machete)	Cut
Chemical Hazards	Chemical fertilizers to increase soil fertility	Getting poisoned
Biological Hazards	Bacteria in the soil[15]	Itching, allergies, illness
	Bacteria in the water	
	Compost	
Ergonomic Hazards	Long hoeing or shovelling positions (static work)	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Activities to cultivate land for beds should not be done by children for the following reasons:

1. The sharp tools used (hoes, sickles, machetes) in cultivating the land for beds endanger children.
2. The use of chemicals to increase fertility, herbicides, etc. is harmful to children.
3. Using a chemical weed killer puts your child at risk of getting poisoned.
4. Chemical fertilisers and livestock manure or waste contain substances that are harmful to health.
5. Potential to interfere with children's school time and reducing children's play times.

[15] See footnote no. 12

Sowing Seeds

Tobacco seeds are very small and fine. The seeds must be sown first in the beds until sprouts appear before being transferred to the poly bags or to remain in the beds.

Because the tobacco seeds are small and fine, one method of sowing the seeds is using water, fine sand or dry ash. The seeds are first put in the water in a container, locally called *gembor*, and then stirred. After that, the water mixed with the seeds is poured into the nursery beds. This technique is used so that the seeds are evenly distributed throughout the nursery beds.

Potential Hazards and Risks to Children

The seeds which are small, soft and light can be inhaled by children. Children also have the potential to be exposed to biological hazards when mixing seeds with water, fine sand or dry ash. The heavy container filled with water also exposes children to ergonomic hazards such as aches in the arms and shoulders. Lifting weights that are heavier than 12 kg will cause muscle and joint problems in the child. Loads heavier than that can cause spinal disorders. If the activity of sowing seeds is carried out in school hours, there is a risk of

disrupting children's learning time. Likewise, if it is done outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Sowing Seeds

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Bacteria in the water	Itching, allergies, illness
	Bacteria in the soil	
	Fine sand or dry ash	Inhaled
Ergonomic Hazards	The weight of the container (*gembor)* that is filled with water	Muscle, ligament and tendon disorders
	Lifting and carrying loads repeatedly	
Psychosocial Hazards	Children are forced to work	Reducing children's play time

Conclusion

Children aged 13-14 years should not do the sowing of seeds. However, this activity of sowing seeds can be done by children aged 15-17 years, provided that:

1. Wear long sleeved clothes
2. Wash hands after sowing the seeds.
3. The weight of the water container (*gembor*) is not more than 12 kg for boys and 10 kg for girls. Children need to be given proper lifting exercises that are not with their back bent
4. No more than 3 hours / day and take a break every 15 minutes.
5. Not done during school hours
6. The child still has time to play

Covering Seed with Husks/Straw

The seeds in the beds are sprinkled with husks/straw as thick as one layer and not too tight. Husk/straw functions as mulch or cover material for cultivated plants which is intended to maintain soil moisture and suppress the growth of weeds and diseases so that plants grow well. The mulch serves to prevent the seeds from moving during watering or when it rains, protects the sprouts from the sun and reduces evaporation and prevents damage to the surface of the beds. The seeds that have been sown in the beds are covered with straw / husks for 4 days until the shoots grow, then the straw is removed.

Potential Hazards and Risks to Children

The straw/husks have the potential to injure the child because it has sharp edges and has the potential to cause itching on the child's skin. If the activity of covering the seeds with straw/husks is carried out during the school hours, it is likely to interfere with children's learning time. Likewise, if it is done outside school hours, it will likely reduce children's play times.

Potential Hazards and Risks during Covering Seed with Husks/Straw

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	The sharp side of the straw/husks	Itchy rash
	Bitten by insects	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

The activity of covering the seeds with straw/husks can be done by children aged 13-14 years and 15-17 years provided that:

- **Children aged 15-17 years old:**
  1. Wearing long-sleeved clothes, hats, and footwear so as not to be exposed to agricultural land.
  2. No more than 3 hours/day and take a break every 15 minutes.
  3. Not being done during the child's school hours.
  4. Children still have time to play.

- **Children aged 13-14 years old:**
  1. Only done on family-owned tobacco fields
  2. Wearing long-sleeved clothes, hats, and footwear so as not to be exposed to soil.
  3. No more than 3 hours/day and take a break every 15 minutes.
  4. Not being done during the child's school hours.
  5. Children still have time to play.

Applying Pesticides

Increasing the productivity of tobacco faces obstacles, one of which is the presence of pests during the nursery. The use of pesticides is considered effective in killing pests and plant diseases. The application and selection of pesticides are carried out after knowing the types of pests and diseases that attack tobacco seeds. The time of pesticide application is before the sun is too hot and late in the afternoon. Applying pesticides before the sun is too hot or late in the afternoon are effective because the pests do not move too much.

The application of pesticides is generally carried out using a spray pump. Pesticide application can also be done using a bucket by pouring the liquid fertiliser on the plants using a small plastic cup.

Potential Hazards and Risks to Children

Excessive loads when carrying the spray pump or when carrying a bucket filled with liquid expose a child to the risks of muscle fatigue in the shoulders and arms. Repetitive movements also expose children to the same risks. In addition, the use of chemicals can lead to poisoning. If pesticides are applied during school time, there is an opportunity to interfere with children's learning time. Likewise, if it is done outside school hours, it will likely there will be opportunities for reduce children's play times.

Potential Hazards and Risks during Application of Pesticides

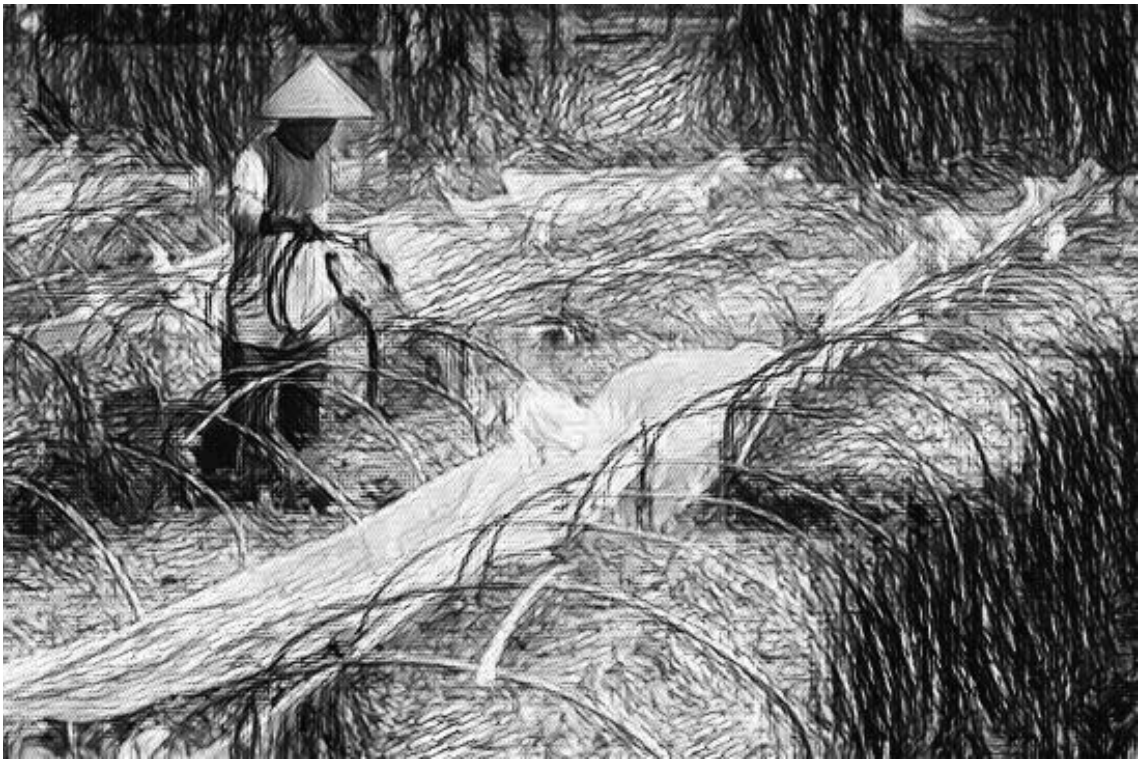
Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Heavy loads	back pain, arm pain dan shoulder
	An uncomfortable position when applying pesticides	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Children should not apply pesticides for the following reasons:

1. The use of chemical pesticides and herbicides exposes children to the risk of poisoning because they contain toxic substances that could enter the body through the mouth, inhalation, and even skin surface.
2. It is potential to disrupt children's school time and reduce children's play time.

Watering Beds



Seedlings of tobacco at the beginning of growth are very susceptible to water shortages, so supervision is needed to maintain humidity. Watering will decrease as the tobacco seeds age. Watering the beds is usually done in the morning and evening using a bowl, bucket, water pump or hose.

Potential Hazards and Risks to Children

Lifting a bag of water or a bucket of water can cause muscle fatigue and pain in the arms and shoulders. Repetitive motion of watering at the planting point also has the same potential. Children also have the potential to be exposed to germs when watering the beds. If the watering is done during school hours, it is likely to interfere with children's learning time. Likewise, if it is done outside of school hours, it will likely reduce children's play times.

Potential Hazards and Risks during Watering Beds

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Bacteria in the water	Itching, allergies, illness
Ergonomic Hazards	The weight of *gembor* (a container) that is filled with water	back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Watering movements that is done repeatedly	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Children aged 15-17 and 13-14 years old can do the watering beds, provided that:

- **Children aged 15-17 years old:**
  1. Wearing long sleeved clothes and using footwear.
  2. Washing their hands after watering the beds.
  3. The weight of the *gembor* filled with water is not more than 12 kilograms for boys and 10 kilograms for girls. Children are trained in advance on how to lift and carry loads properly.
  4. No more than 3 hours/day and take a break every 15 minutes.
  5. Not being done during the children's school hours.
  6. Children still have time to play.

- **Children aged 13-14 years old:**
  1. Only done on family-owned tobacco fields
  2. Wearing long-sleeved clothes and using footwear.
  3. Do not use a *gembor* when watering.
  4. Washing their hands after watering the beds.
  5. No more than 3 hours/day and take a break every 15 minutes.
  6. Not being done during the children's school hours.
  7. Children still have time to play.

Weeding Grass on Beds

Weeding is an activity of removing grass and other weeds that grow between tobacco plants and at the same time loosening the soil. Weeds are plants which is undesirable on agricultural land because they reduce the yields that can be achieved by tobacco plants. Weeding aims to clean diseased plants, reduce competition for nutrient absorption, reduce barriers to seedling production and reduce competition for penetration of sunlight. Weeding is done by using hands to pull out the grass that grows between the plants or using hoes, sickles or machetes. To eradicate weeds, farmers usually use herbicides that kill weeds but do not damage crops.

Potential Hazards and Risks to Children

The use of hoes, sickles or machetes to weed the grass in the nursery exposes children to sharp objects that can cause injury. Children are also potentially exposed to germs when weeding. The repetitive motion of weeding and squatting working position can also cause the child to experience back and lumbar pain, pain in the arms and shoulders. If weeding

is done during school hours, it is likely to interfere with children's learning time. Likewise, if it is done outside school hours, it will likely reduce children's play times.

Potential Hazards and Risks during Weeding the Grass in the Beds

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (hoes, sickles, and machetes)	Cut
	Exposure to sun	Dizziness
		Dehydration
		Skin irritation
Biological Hazards	Wild animal bites (snake or insect)	Stung
	The sharp side of the grass	Itchy rash
	Bacteria in the soil	Itching, allergies, illness
Chemical Hazards	Pesticides, herbicides[16]	poisoning
Ergonomic Hazards	Be in a squatting position for weeding.	back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	The morbid movements.	
	Inconvenient equipment to use	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Children should not do the weeding activities on the beds for the following reasons:

1. The sharp objects used (hoes, sickles, machetes) to weed the grass in the beds endanger the child.
2. Using chemical weed and weed repellent exposes your child to the risk of poisoning.
3. Potential to interfere with children's school time and reducing children's play times.

[16] The use of pesticides can pose a risk to the body and enter the human body systemically. The disruption can range from skin irritation to nervous and even hormonal disorders. The use of herbicides also carries the same risk when it is exposed to the human body.

Fertilization of the Beds

Fertilization is carried out to ensure that plants get adequate nutrition. Fertilizer can be in the form of liquid and solid which come from chemicals or organic materials. Fertilization is usually done in the morning or evening. Fertilization using liquid material is generally done using a spray pump. It is also done using a bucket by pouring the liquid fertilizer on the plants using a small plastic cup. Meanwhile, solid fertilizers such as animal manures are usually sprinkled on the soil around the plants.

Potential Hazards and Risks to Children

Excessive loads when carrying the spray pump or when carrying a bucket filled with liquid expose a child to the risk of muscle fatigue in the shoulders and arms. Repetitive movements also expose children to the same risk. In addition, the use of chemicals can make the child poisoned. The use of manure has the potential to expose children to bacteria that cause itching and disease. When fertilization is done during school time, it

likely interferes with children's learning time. Likewise, if it is done outside school hours, it will reduce children's play times.

Potential Hazards and Risks during Fertilization

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
	Bacteria in the water	
	fertiliser	
Chemical Hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Heavy loads[17]	back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable position when fertilising or spraying	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Fertilizing beds should not be done by children for the following reasons:

1. The use of chemical pesticides and herbicides exposes children to the risk of poisoning.
2. The use of manure puts children at risk of disease caused by the antibiotic residues of livestock and harmful microorganisms that grow in the manure.
3. Potential to interfere with children's school time and reducing children's play times.

[17] Fertilizing plants by spraying using a device carried on the back by a child will cause disturbances in muscles and joints and even changes in the anatomical shape of the body.

Cutting Leaves

Leaf cutting is the activity of cutting part or 2/3 of leaves of the tobacco seed. Leaf cutting is done by trimming some of the leaves which aims to even out the growth of the seedlings (small seeds can catch up with large seeds), delay planting time/schedule for various reasons and purposes, and make the stems of the seedlings stronger and healthier (not easily die or got sick). The process of cutting leaves is carried out between 08.00 and 11.00 and can be done once, twice or more according to the development of the seeds and the preparation of planting areas.

With this leaf cutting, seed growth will form more root arrangements, larger stem diameter, stronger and higher irradiation intensity on the stems and leaves. Leaves cutting uses tools such as scissors and sickle.

Potential Hazards and Risks to Children

When cutting leaves, children are potentially exposed to chemicals that stick to the leaves of tobacco seeds. The use of scissors and sickles also exposes the child to sharp objects that can injure the child. Position when cutting leaves exposes children to ergonomic

hazards. Leaf cutting which is done in school hours has the risk of disrupting children's school time.

Potential Hazards and Risks during Cutting Leaves

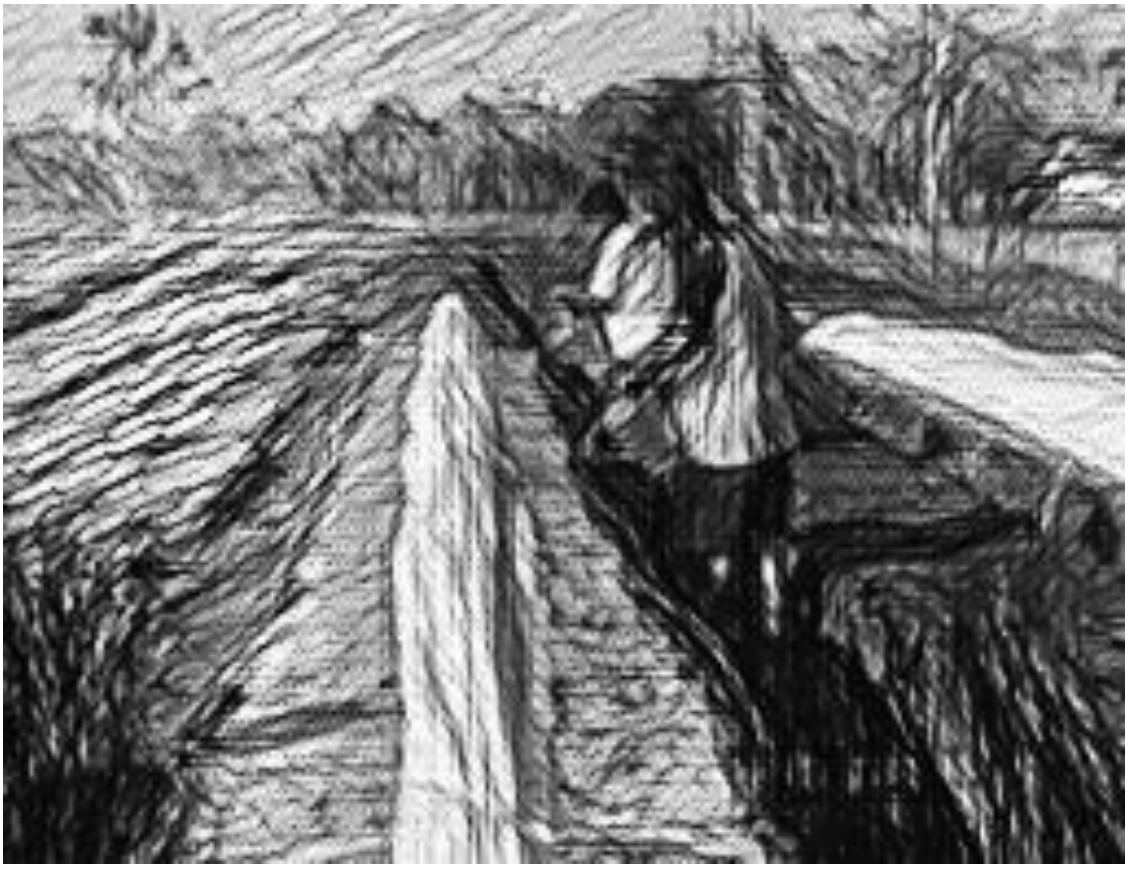
Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (scissors, sickles)	Cut, Injured
Chemical Hazards	Pesticides, herbicides	poisoning
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
Ergonomic Hazards	Repetitive motion when cutting leaves	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Squatting position when cutting leaves	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Leaves cutting activities should not be carried out by children for the following reasons:

1. The sharp objects used (scissors, sickle) to cut the leaves endanger the child.
2. Pesticides and herbicides that stick to the seedlings expose children to the risk of poisoning.
3. Potential to interfere with children's school time and reducing children's play times.

Preparing Covers for Beds



To ensure that the seeds can grow well, the beds need to be covered using cultivated plant cover or commonly known as mulch. Plastic mulch is a sheet of plastic used to cover the soil of the bed.

Mulch is very useful for inhibiting the growth of weeds, protecting the soil from erosion, keeping the soil structure in good condition, and maintaining soil moisture. The material used by farmers to cover the seedlings in their beds is usually plastic. Plastic mulch is an inorganic type of mulch.

Potential Hazards and Risks to Children

The wood that is used both when cutting and sticking in the ground to put plastic on the bed has the potential to injure the child. If the process of preparing the bed cover is done during school time, there is a risk of disrupting the child's school time. Likewise, if done in the afternoon or evening there is a risk of disrupting children's playtime.

Potential Hazards and Risks during Preparing Bed Covers

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Woods	Injured
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

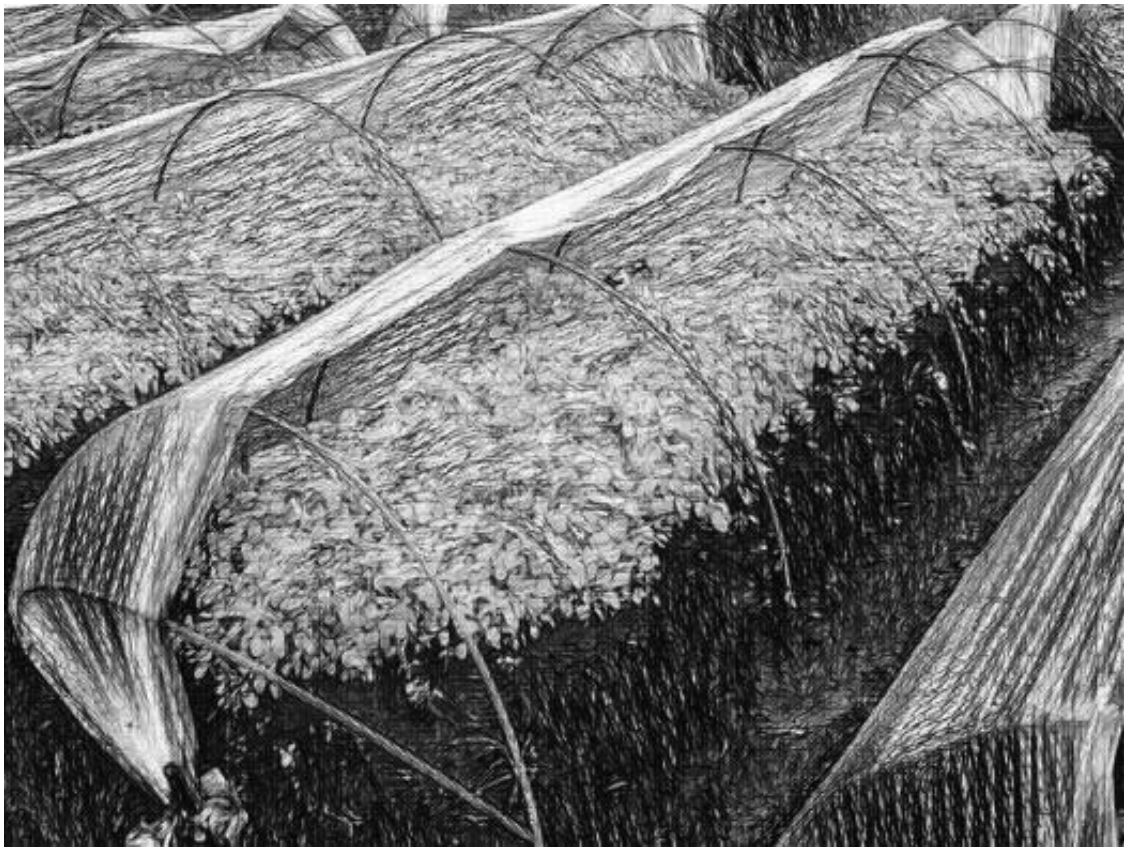
Conclusion

The activity of preparing bed covers can be done by children aged 15-17 years and 13-14 years with the following notes:

- **Children aged 15-17 years old:**
  1. Wearing long sleeved clothes and footwear
  2. Not involved in chopping wood
  3. Not lifting weights that are not in accordance with the child's ability limits
  4. No more than 3 hours / day and take a break every 15 minutes.
  5. Not done during school hours
  6. The child still has time to play

- **Children aged 13-14 years old:**
  1. Only done on family-owned tobacco fields
  2. Wearing long sleeved clothes and footwear
  3. Not involved in cutting and sticking wood
  4. Not lifting weights that are not in accordance with the child's ability limits
  5. No more than 3 hours / day and take a break every 15 minutes.
  6. Not done during school hours
  7. The child still has time to play

Cover and Uncover the Beds Using Plastic Cover



Installing a plastic cover for each bed begins by tying the plastic corners to the bamboo frame. The tying process is done in such a way so that it is easy to put on the cover over the bamboo frame.

Covering and uncovering the beds are efforts to train the seedlings to get familiar with the sun heat. Like watering, the uncovering of the beds is also done gradually. The bed cover is not fully opened for several days before the seeds are removed. The plastic bed covers are opened at night and closed in the morning.

Potential Hazards and Risks to Children

The process of covering the beds during school time has the potential to interfere with children's school and play time. If the process of uncovering the beds is done at night, it could potentially interfere with children's learning time.

Potential Hazards and Risks during Covering and Uncovering the Beds

Types of Hazards	Potential Hazards to Children	Risks
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Stress

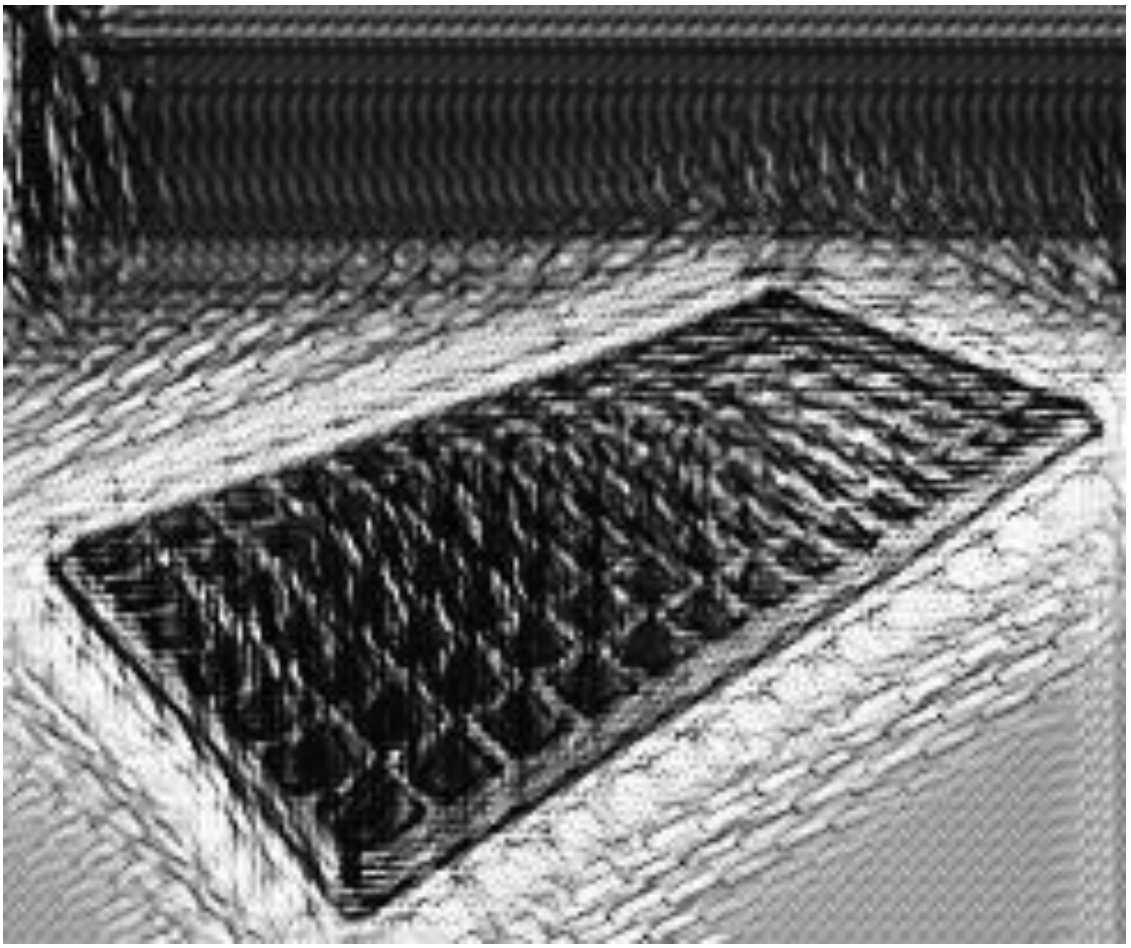
Conclusion

The activity of covering and uncovering the beds can be done by children aged 13-14 years and 15-17 years, provided that:

- **Children aged 15-17 years old:**
  1. Not involved in the activity of uncovering the beds cover which is done in the night
  2. No more than 3 hours / day and take a break every 15 minutes.
  3. Do not lift the cover that is more than 12 Kg
  4. Not done during school hours

- **Children aged 13-14 years old:**
  1. Only done on family owned tobacco fields
  2. Not involved in the activity of uncovering the beds which is done the the night
  3. No more than 3 hours / day and take a break every 15 minutes.
  4. Do not lift the cover that is more than 12 Kg
  5. Not done during school hours

Preparing Tray



Seedling trays are plastic-based placemats commonly used as planting containers so that seeds or seedlings can form their own roots before being planted in the final location. There are several types of seedling trays based on the amount of space. Basically, the nursery done on the seedling tray and in the poly bag are almost the same. But the seedling tray has several advantages that polybags do not have, such as it can be used repeatedly, saves planting media, is more organized, is easy to move and reduces the level of damage. Farmers do not usually place the seedling trays in direct contact with the land surface to prevent the seedling roots from growing down into the earth. This is done to avoid the risk

of root damage when the seedlings are taken from the seedling tray or when the seedlings are being moved.

Potential Hazards and Risks to Children

Tray can be used repeatedly. However, to use it again, the tray must be cleaned from the soil frome previous planting season. The process of cleaning the tray has the potential for children to be exposed to biological hazards in the soil or water for washing. The process of preparing the tray if it is done in school time, potentially interfere with the child's school time. Meanwhile, if the tray preparation process is carried out in the afternoon or evening, it has the potential to interfere with children's play time.

Potential Hazards and Risks during Preparing the Tray

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
	Bacteria in the water	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

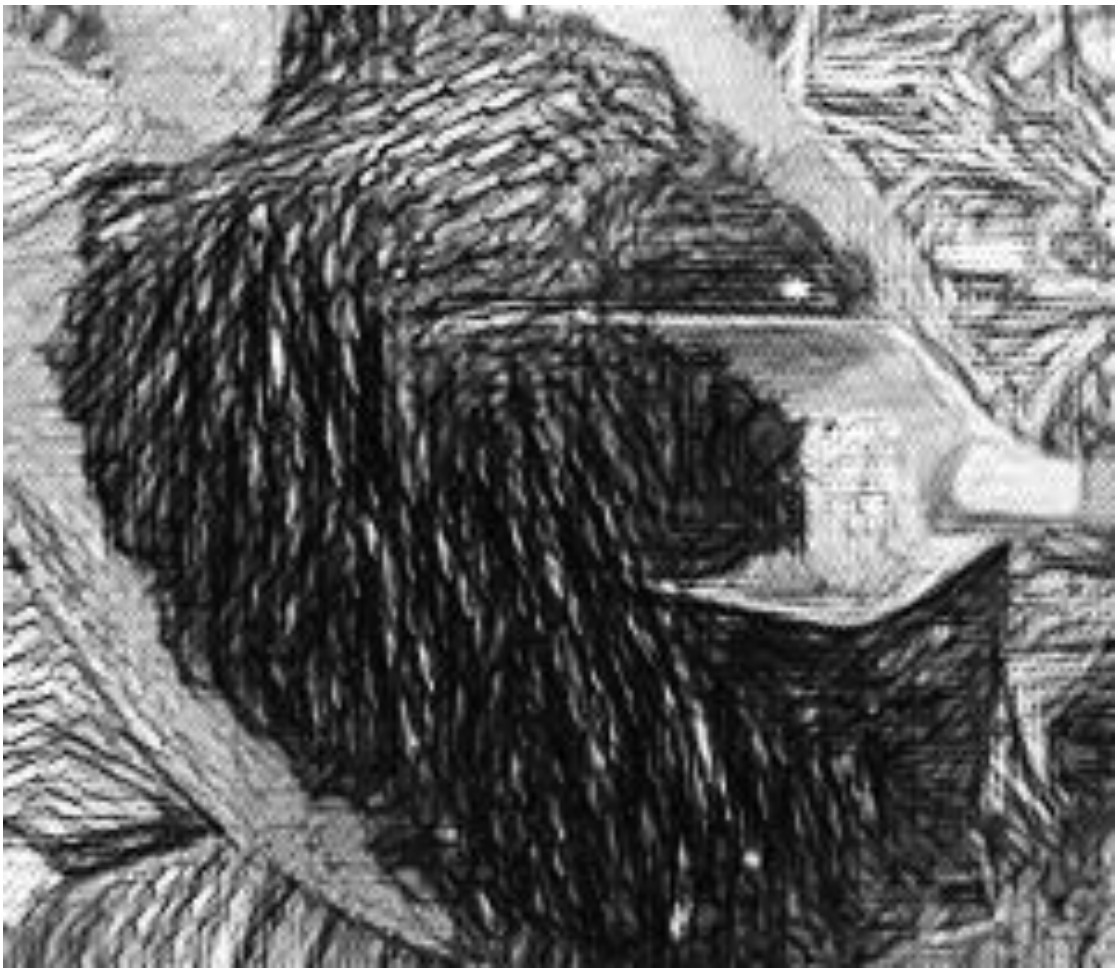
Conclusion

The activity of preparing a tray can be done by children aged 13-14 years and 15-17 years, provided that:

- **Children aged 15-17 years old:**
  1. Wearing long sleeved clothes and gloves
  2. Use a mask to protect inhalation from dust and gloves
  3. Wash hands after preparing the tray
  4. Not done during school hours
  5. The child still has time to play

- **Children aged 13-14 years old:**
  1. Only done on family-owned tobacco fields
  2. Wearing long sleeved clothes and gloves
  3. Use a mask to protect inhalation from dust and gloves
  4. Wash hands after preparing the tray
  5. Not done during school hours
  6. The child still has time to play

Preparing Planting Media for Tray



To enrich the nutrient content of the planting medium, organic fertilizers are usually added either in the form of manure or compost. The fertilizer is refined by sieving so that the growing media does not have a rough structure which is not good for the growth of seeds that have just germinated because the roots are still too soft. The fertilizer is mixed with the soil in a balanced ratio or according to the conditions of the seeds.

Potential Hazards and Risks to Children

Fertilizers added to enrich nutrient content have the potential to expose children to bacteria found in compost or manure. The use of a shovel has the potential for children to be exposed to sharp objects. Repetitive movements to prepare the planting medium and work positions that are squatting or bending can make the child experience back and waist pain, pain in the arms and shoulders. If the activity of preparing planting media for trays is carried out during school time, there is the risk of disrupting children's learning time. Likewise, if it is done outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Preparing Planting Media for Tray

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp object (shovel)	Injured
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
	Bacteria in the water	
	Fertiliser	
Ergonomic Hazards	Be in a squatting or bent position	back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Shovelling movements	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

The activity of preparing planting media for tray may be done by children aged 15-17 years and 13-14 years, provided that:

- **Children aged 15-17 years old:**
  1. Wearing long sleeved clothes and footwear
  2. Use a mask to protect inhalation from dust and gloves
  3. Wash hands after planting media to tray
  4. No more than 3 hours/day and take a break every 15 minutes.
  5. Not being done during school hours
  6. Children still have time to play

- **Children aged 13-14 years old:**
  2. Only done on family-owned tobacco fields
  3. Wearing long sleeved clothes and footwear
  4. Use a mask to protect inhalation from dust and gloves
  5. Not involved for shovelling
  6. Wash hands after planting media to tray
  7. No more than 3 hours / day and take a break every 15 minutes.
  8. Not being done during school hours
  9. Children still have time to play

Transferring Seeds from the Nursery to Tray

The germinated seeds can now be transferred from the nursery to the tray. Before moving the seedlings, the media for seedlings was watered until they are slightly damp and moist. Small wood is usually used to make planting holes. Furthermore, the tobacco seeds from the beds are removed and then planted in the seedling trays. To maintain tobacco seeds in the tray, watering is carried out by paying attention to humidity level. Transferring seedlings from the nursery to the tray is usually done in the morning or evening.

Potential Hazards and Risks to Children

Transferring seedlings from the nursery to the tray exposes the child to the hazards of germs found in the soil. Children are also potentially exposed to chemicals that stick to tobacco seeds. The repetitive motion of moving seedlings from the nursery to the tray and the squatting position can also cause the child to experience back and waist pain, pain in the arms and shoulders. If the transfer of seedlings from the nursery to the tray is done in school time, there is the risk of disrupting the child's school time. Likewise, if done in the afternoon, there is a risk of reducing children's play times.

Potential Hazards and Risks during Moving Seedlings from the Nursery to the Tray

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Soil bacteria	Itching, allergies, illness
	Earthworms	
	Dangerous insects	
	Manure	
Chemical hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Repeated movements in moving the seeds to the tray	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Children should not do the activity of moving seedlings from the nursery to the tray for the following reasons:

1. Pesticides and herbicides that stick to the seedlings expose children to the risk of poisoning.
2. Soil containing fertilizers (animal manures) put children at risk of disease
3. Potential to interfere with children's school time and reducing children's play times.

Transferring Seeds to Polybags

If the nursery is done using polybags, the seeds that have sprouted and have reached a certain height are transferred to polybags. The poly bag is first filled with soil that has been mixed with fertilizer. The seedlings are allowed to grow to a certain height before they are finally ready to be planted on agricultural land.

Potential Hazards and Risks to Children

The process of putting soil into polybags exposes children to the potential risk of germs found in the soil. Children are also potentially exposed to chemicals that stick to tobacco seeds. Repetitive work of putting soil into polybags can also make children experience muscle fatigue and shoulder and arm pain. If the activity of transferring seeds to polybags is carried out during school hours, there is a risk of disrupting children's learning time. Likewise, if it is done outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Transferring Seeds to Polybags

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Soil bacteria	Itching, allergies, illness
	Earthworms	
	Dangerous insects	
	Manure	
Chemical Hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Repetitive work by putting the soil into polybags	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable work position	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Activities of transferring seeds to polybags should not be carried out by children for the following reasons:

1. Pesticides and herbicides that stick to the seedlings expose children to the risk of poisoning.
2. Soil containing fertilizers (animal manures) put children at risk of disease
3. Potential to interfere with children's school time and reducing children's play times.

Removing Seeds

Seedling removal (from nursery beds) begins by irrigating the beds until the soil becomes soft and the roots can be easily pulled out and intact. One day before planting the seedlings, the beds are irrigated up to three-quarters of the gutter height. Removing the seedlings is done during school hours or in the afternoon or when the sun's intensity is not high.

Removing the tobacco seeds is done by avoiding holding the seed stems as they still absorb and store water in the main stem and are sensitive to pressure and cause damage and reduce the quality of the seeds. When removing the seeds, farmers also sort which seeds that have to be pulled out first.

Potential Hazards and Risks to Children

Removing seedlings exposes children to the potential risk of germs found in soil and water. Children are also potentially exposed to chemicals that stick to tobacco seeds. The repetitive work of removing the seedlings can also result in muscle fatigue and pain in the shoulders and arms. If the activity of removing seeds is carried out at school time, there is a risk of disrupting children's school time. Likewise, if done in the afternoon, there is a risk of reducing children's play times.

Potential Hazards and Risks during Removing Seeds

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
	Earthworms	
	Dangerous insect	
	Fertiliser (animal manures)	
Chemical Hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Repetitive work while pulling seeds.	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable work positions	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

The activity of pulling seeds should not be carried out by children for the following reasons:

1. Pesticides and herbicides that stick to the seedlings expose children to the risk of poisoning.
2. Soil containing manure puts children at risk for disease
3. Potential to interfere with children's school time and reducing children's play times.

Loading seeds into Ready-to-Transport Containers

This process is carried out for the seeds sown in the beds. Usually farmers use buckets, sacks or other containers that can accommodate seeds. Putting the seeds into the container is done carefully so that the seeds are not stressed. Seedlings are arranged in such a way so as not to damage the seeds and make them easier to transport. Seedlings are transported using containers such as bamboo racks. Seedlings in the trays or polybags do not require a container when transported to the planting area.

Potential Hazards and Risks to Children

Transferring seeds to ready-to-transport containers exposes children to biological hazards such as germs found in soil and water. The process of removing seedlings also exposes children to the danger of being bitten by insects. Children are also potentially exposed to chemicals that stick to tobacco seeds. The repetitive work of removing seedlings can also result in muscle fatigue and pain in the shoulders and arms. If the

activity of putting seeds into ready-to-transport containers is carried out at school time, there is a risk of disrupting the child's school time. Likewise, if done in the afternoon, there is a risk of reducing children's play times.

Potential Hazards and Risks during Putting Seeds into Ready-to-Transport Containers

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
	Bacteria in the water	
	Dangerous insects	
	Manure	
Chemical Hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Repetitive work in putting seeds	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable work positions	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Children should not do the activity of putting seeds into ready-to-transport containers for the following reasons:

1. Pesticides and herbicides that stick to seedling leaves expose children to the risk of poisoning.
2. Soil containing manure puts children at risk for disease.
3. Potential to disrupt children's school time and reduce children's play time.

Transporting Collected Seeds

Generally, the seeds to be planted are transported to the farm one day before the planting process is carried out. Seedlings are transported by motorbikes or on foot. Seedlings are carried using containers such as bamboo racks or other containers that can accommodate seedlings and are easy to carry.

Potential Hazards and Risks to Children

Children transporting seedlings to farm land have the potential to be exposed to muscle fatigue in the arms and shoulders, especially when the transporting is carried out manually and the load is too much. Children also have the potential to fall when carrying seeds on motorbikes. Children also have the potential to be exposed to germs found in the soil. The chemicals attached to the tobacco seeds expose children to chemical hazards. If the activity of transporting seedlings is carried out in school time, there is a risk of disrupting children's school time. Likewise, if done in the afternoon, there is a risk of reducing children's play times.

Potential Hazards and Risks during Transporting Collected Seedlings

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Carrying seeds while riding a motorcycle	Fell
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
	Fertilisers	
Chemical Hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Carrying seeds by hand	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable work position	
Psychosocial Hazards	Children are forced to work	Reducing children's play time
		Stress

Conclusion

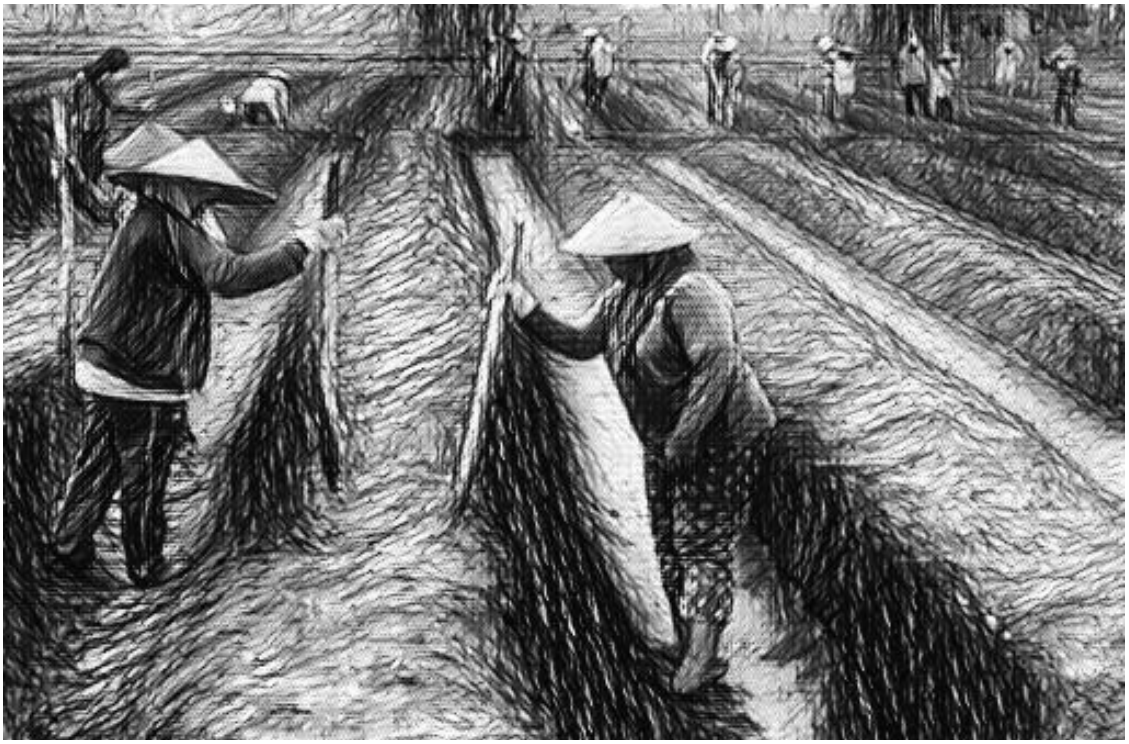
Children should not carry out the activities of transporting the collected seeds for the following reasons:

1. Children have the potential to fall if the transporting process uses a motorbike.[18]
2. Pesticides and herbicides that stick to the seedlings expose children to the risk of poisoning.
3. Soil that contains manure puts children at risk for disease
4. Potential to interfere with children's school time and reduce children's play time.

[18] The position of holding and bearing the weight of the seeds while riding on a motorcycle will cause additional fatigue in the muscles and potentially cause disruption

Planting

Marking Points of Planting



When the planting beds are ready, small holes were made to mark where tobacco seedlings will be planted. The hoe is used to plant seedlings from polybags.

In order for the soil in the hole to become loose and good for the development of the roots of tobacco seeds, the soil is first beaten with a wooden stick/hoe. To ensure uniform plant growth, the seeds should be uniform in age and size. The planting holes are then given the fertilizer. To make the base of the stem and roots are well attached to the soil, a little water is poured to the planted seedlings. If the weather during the planting time is hot, the planting hole is watered first before a seedling is planted.

Potential Hazards and Risks to Children

Marking the points of planting that is carried out during the day gives the child the potential to be exposed to the sun. The use of wood and hoes to punch holes and fluff out holes,

putting children at risk of injury. Applying fertilizer to the holes exposes children to germs. At the time of making the holes, repeated motion to make the holes expose the child to the potential for muscle fatigue in the arms and shoulders. If the activity of marking planting points is carried out in the morning and afternoon, it has the potential to interfere with school time and children's play time.

Potential Hazards and Risks during Marking Planting Points

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (wood and hoe)	Injured
	Exposure to sun	Dizziness
		Dehydration
		Skin irritation
Biological Hazards	Bacteria in the soil	Itching, allergies, illness
	Manure	
Ergonomic Hazards	Repetitive motion to perforate the soil for the planting process	Back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Activities of marking planting points may be carried out by children aged 15-17 years and 13-14 years with the following notes:

- **Children aged 15-17 years old:**
  1. Wearing long sleeved clothes, hats, masks and footwear
  2. Only use wood
  3. Bring drinking water
  4. No more than 3 hours / day and rest in the shade every 15 minutes.
  5. Wash hands after marking the planting point
  6. Not done during school hours
  7. The child still has time to play

- **Children aged 13-14 years:**
  1. Only done on family-owned tobacco fields
  2. Wearing long sleeved clothes, hats, masks and footwear i
  3. Only engage in soil watering (do not use *gembor*)
  4. Wearing long sleeves and a hat
  5. Bring drinking water
  6. No more than 3 hours / day and rest in the shade every 15 minutes
  7. Wash hands after marking the planting point
  8. Not done during school hours
  9. The child still has time to play

Watering Land

There are basically two ways of planting, wet planting in which the land is irrigated first and dry planting in which each planting hole is watered by a liter of water. In dry planting, watering the holes should be done every day until the plants are strong enough and able to survive the hot sun.

The tools used to water the land vary, such as *gembor*, pump machines, hoses, or buckets. When using a bucket, water is poured using a small plastic cup to the planting points.

Potential Hazards and Risks to Children

Lifting a water container or a water bucket can cause muscle fatigue and pain in the arms and shoulders. Repetitive watering movements also have the same potential. Children are also at risk of being exposed to bacteria contained in water. If the watering activity is

carried out during school hours, there is a risk of disrupting children's learning time. Likewise, if it is done outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Watering Land

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Bacteria in water	Itching, allergies, illness
Ergonomic Hazards	Filled water container	back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders
	Repetitive watering[19]	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Watering the land can be done by children aged 15-17 and 13-14 years old, provided that:

- **Children aged 15-17 years old:**
  1. Wearing long sleeved clothes, hats and footwear
  2. Wash your hands after watering the land
  3. The weight of the water-filled bag is not more than 12 kg for boys and 10 kg for girls or only using buckets or hoses.
  4. No more than 3 hours / day and rest in the shade every 15 minutes
  5. Children are given an explanation of how to lift and carry loads properly
  6. Not done during school hours
  7. The child still has time to play

- **Children aged 13-14 years old:**
  1. Only done on family-owned tobacco fields
  2. Wearing long sleeved clothes, hats and footwear
  3. Wash your hands after watering the land

[19] Lifting weights while walking a certain distance involves the works of muscles and bones of the arms of the shoulder joints, the back muscles and muscles along the spine and the muscles and bones in the legs. Excess load accompanied by improper body position and repeated actions will cause muscle, joint disorders and even cause changes in the anatomical shape of the body.

4. Just use the hose
5. No more than 3 hours / day and rest in the shade every 15 minutes
6. Children are given an explanation of how to lift and carry loads properly
7. Not done during school hours
8. The child still has time to play

Planting

Planting is usually carried out in the afternoon so that the seedlings do not wither by the heat. If a wet planting system is applied, planting is usually done in the morning.

If the seeds are planted in a polybag, the poly bag is torn and seedlings and soil are transplanted into the planting hole. This process requires care so that the soil in the polybag stays intact when it is planted into the planting hole. After planting works, the planted seedlings are checked to identify dead seedling. The dead seedlings are to be removed and replaced.

Potential Hazards and Risks to Children

Tobacco cultivation exposes children to the hazards of bacteria found in soil or water. Children are also exposed to chemical substances that stick to tobacco seeds. Repetitive movements in planting and squatting work positions can also expose children to back and lumbar pain, pain in the arms and shoulders. If the planting process is carried out during the school hours, there is a risk of disrupting children's learning time. Moreover, if it is done in the afternoon, there is a risk of reducing children's playtime.

Potential Hazards and Risks during Planting

Types of Hazards	Potential Hazards for Children	Risks
Chemical Hazards	Pesticides, herbicides	Poisoning
Biological Hazards	Insect	Bitten by insects, itchiness, allergies, diseases
	Soil bacteria	
	Water bacteria	
	Manure	
Ergonomic Hazards	Repetitive motions when planting	Back pain, arm pain, shoulder and muscle pain, ligament and tendon pains
	Uncomfortable work positions	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Planting activities should not be carried out by children for the following reasons:

1. Pesticides and herbicides sticking to seedlings put children at risks of poisoning.
2. Soil that contains manure puts children at risk for disease
3. It potentially disrupts children's school time and reduces children's play time.

Plant Fertilization

Fertilization is carried out to ensure that plants get adequate nutrition. Fertilizers can be in liquid and solid forms from chemicals or organic materials. Fertilization are usually done in the morning and evening or depending on needs.

Fertilization using liquid fertilizer is generally done using a spray pump or using a bucket by pouring the fertilizer liquid on the plants using a small plastic cup. Meanwhile, solid fertilizers like manure are usually sprinkled on the soil around the plants.

The liquid fertilizer used is mixed with water and stirred. The mixing of toxic liquid fertilizer is generally done in a bucket and then poured into a spray pump. Mixing can also be done directly in the spray pump.

Potential Hazards and Risks to Children

Excessive loads when carrying the spray pump or when carrying a bucket filled with liquid fertilizer expose a child to the hazards of muscle fatigue in the shoulders and arms. Repetitive movements also expose children to the same hazards. In addition, the use of chemicals can make children poisoned. If done during school time, there is a risk of disrupting children's learning time. Also, if done in the afternoon, there is a risk of reducing children's play time.

Potential Hazards and Risks during Fertilising Plants

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Pesticides, herbicides	Poisoning
Ergonomic Hazards	Heavy load	Back pain, arm, shoulder and muscle pain, ligament and tendon disorders
	Uncomfortable positions when fertilizing and spraying	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Fertilization should not be carried out by children for the following reasons:

1. The use of chemical pesticides and herbicides exposes children to the risk of poisoning.
2. Potentially disrupting children's school time and reducing children's play time.

Watering Using Watering Container

After the planting process is complete, the plants are watered adequately. Watering generally uses a watering container or by using a bucket. When using a bucket, water is poured over the plants using a small plastic cup at the planting point.

Potential Hazards and Risks to Children

Lifting a bucket or a bucket loaded with water can cause muscle fatigue and pain in the arms and shoulders. Repetitive motions of watering at the planting point can also cause the same hazards. If the watering activity is carried out during school time, there is a risk

of disrupting children's learning time. Similarly, if done outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Watering with Traditional Watering Can

Type of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Water bacteria	Itchiness, allergies, diseases
Ergonomic Hazards	Weight of water-filled watering container (gembor)	Back pain, arm pain, shoulder and muscle pain, ligament and tendon disorders
	Repetitive watering movements	
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children' play time
		Stress

Conclusion

Watering using water container activities are prohibited to be done by children aged 13-14 years old. The activities, however, may be done by older children aged 15 -17 with the following remarks:

1. Wearing long sleeved clothes and footwear
2. Wash hands after watering
3. The weight of the water is not more than 12 kg for boys and 10 kg for girls.
4. Children are given an explanation of how to lift weights and carry weights properly
5. Not more than 3 hours / day and rest every 15 minutes
6. Not done during school hours
7. Children still have time to play

Watering Plants Using the Sheet Pile *(Turap)* System

Turap (torap/norap, Madura language), watering using a sheet pile system is another watering method used by farmers. Watering with this system uses drainage or small gutters around the planting land. The water is streamed into a gutter and allowed to stagnate so that the soil beds can absorb water.

To source the water, farmers usually construct wells in tobacco fields. Water from the well is pumped using a machine and put into a water reservoir or water tank. Fertilizer is usually dissolved into the water reservoir or tank before being used to irrigate the planting beds. Thus, the water flowing from the water tank containing fertilizer.

If the tobacco farm is close to a water source such as a river, farmers usually just discharge water from the river to the gutter between the planting beds. Usually, this process is done at night.

Potential Hazards and Risks to Children

The use of a hoe to discharge water into the gutter between the soil bed, puts children at risk for injury. Also, bacteria found in soil and water can expose children to bacteria or diseases. The process of discharging water also exposes children to potential bites from wild animals such as snakes and insects. If the *Turap* system is carried out at school time, there is a risk of disrupting the child's school time. However, if done outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Watering with the Turap System

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp object (hoe)	Injury
Biological Hazards	Water bacteria	Itchiness, allergies, diseases, poisoning
	Air bacteria	
	Manure	
	Wild animal and insect bites (snake or bugs)	bitten, itchiness
Ergonomic Hazards	Repetitive hoeing to discharge water	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
Psychosocial Hazards	Children are forced to work	Disrupting children's school time
		Reducing children's play time
		Stress

Conclusion

Watering in the Turap system should not be carried out children because of the following reasons:

1. Using a sharp object (hoe) to discharge water into gutters in the soil bed is dangerous for children.
2. Children are potentially attacked by wild animals such as snakes and insects.
3. Draining water from water sources such as rivers is done at night.
4. Potentially interfere with children's school time and reduce children's play time.

Care

Soil Loosening

The soil loosening activity is done so that the plants could have better nutrition, water, and oxygen supply and so that the plants would grow more sturdy and not easily tumbled down. The soil loosening is done several times. The soil mounds between the tobacco plant lines are hoed and flipped to loosen the soil so that the newly planted tobacco can grow better rooting during its early development. A new planted tobacco is very susceptible to various environmental influences.

Potential Hazards and Risks to Children

Soil loosening using hoe has the risk of injuring children. Children are also at risk of exposure to the bacteria in the soil. During the soil loosening, children are also exposed to the chemicals that are sticking to the plant. The repetitive motion of weeding and the

bending working position can also cause the child experience back and hip pain, pain in the arms and shoulders.[20] If the soil loosening is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Soil Loosening

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp object (hoe)	Injury
Chemical Hazards	Pesticide, herbicide	Poisoning
	Fresh tobacco leaves	Green Tobacco Sickness (GTS)[21]
Biological Hazards	Insect bites	Itchiness, allergies
Ergonomic Hazards	Repetitive movement of ploughing the soil	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable working positions	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of soil loosening should not be done by children for the following reasons:

1. Using a sharp object (hoe) to loosen the soil is dangerous for children.
2. The use of chemical pesticides and herbicides exposes children to the risk of poisoning.
3. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
4. Potentially interfere with children's school time and reduce children's play time.

[20] Soil loosening activity involves strenuous effort and exceeds the limits of the child's strength.

[21] Green Tobacco Sickness (GTS) is a form of nicotine poisoning that can occur when a person is contaminated with the liquid in tobacco leaves during their activity in the farming field. The dew that sticks to the tobacco leaves can be exposed to the body and if it occurs continuously in a certain amount it will cause symptoms of nausea and vomiting, sometimes it will even require treatment.

Cleaning Weeds/Weeding in the Field/Killing Caterpillars

Plant care is carried out to ensure that the plant's environmental conditions remain ideal for plant's growth. One of the maintenance activities is to clean the area around the plants from weeds. The weeds that grow around the plant are weeded manually using hands. In this activity, farmers usually also put chemical substances to kill caterpillars or other pests.

Potential Hazards and Risks to Children

The process of cleaning weeds/weeding in the field/killing caterpillars exposes children to the dangers of bacteria found in the soil. Caterpillars and insects are risking children to get itch or allergies. This activity also exposes children to chemicals that stick to plants or to grass or fresh tobacco leaves.[22] The repetitive motion of weeding and the bending

[22] Working in productive crop fields that utilize herbicides and pesticides carries the risk of being exposed to hazardous chemicals.

working position can also cause the child experience back and hip pain, pain in the arms and shoulders. If the activity of cleaning weeds/weeding in the field/killing caterpillars is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Cleaning Weeds/Weeding in the Field/Killing Caterpillars

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp object (hoe, sickle)	Cuts, injury
Chemical Hazards	Pesticide, herbicide	Poisoning
	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Caterpillar	Itchiness, allergies, diseases
	Insect bites	
Ergonomic Hazards	Repetitive movement during cleaning weeds/weeding in the field/killing caterpillars	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable working position	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of cleaning weeds/weeding in the field/killing caterpillar should not be done by children for the following reasons:

1. Using a sharp object (hoe, sickle) for weeding is dangerous for children.
2. The use of chemical pesticides and herbicides exposes children to the risk of poisoning.
3. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
4. Potentially interfere with children's school time and reduce children's play time.

Applying Pesticides

To protect plants from pests, chemical pesticide or herbicide is sprayed on or around the plants. Chemical spraying is usually done in the morning or evening using a spray pump. quid fertilizers can also be applied using a bucket by pouring the liquid fertilizer to the plant using a small plastic cup.

Liquid pesticide is diluted with water and then stirred. The mixing of liquid pesticide or fertilizers are usually done in a bucket before poured into the spray pump. The mixing can also be done directly in the spray pump.

Potential Hazards and Risks to Children

Excessive loads when carrying the spray pump or when carrying a bucket filled with liquid expose a child to the danger of muscle fatigue in the shoulders and arms. Repetitive movements also expose children to the same dangers. In addition, the use of chemicals can poison children. If the activity of giving pesticides is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Giving Pesticides

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Pesticide, herbicide	Poisoning
	Fresh tobacco leaves	*Green Tobacco Sickness* (GTS)
Ergonomic Hazards	Heavy weight	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable position while giving pesticides	
Psychosocial	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of giving pesticides should not be done by children for the following reasons:

1. The use of chemical pesticides and herbicides exposes children to the risk of poisoning.
2. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
3. Potentially interfere with children's school time and reduce children's play time.

Pruning Leaf Shoots

As an attempt to increase tobacco's thickness and quality, pruning leaf shoots is carried out after the tobacco plants show flower buds. Pruning is done so that the plant grows as desired. Pruning is also done to leaves that are wilted or dead. Pruning, that can be done manually using hands or using pruning shears, is done in the morning when the weather is sunny with the hope that the scars will immediately close when exposed to the sunlight, forming new tissue so that they are not easily infected with disease.

Potential Hazards and Risks to Children

When cutting the leaves, children are potentially exposed to chemicals that stick to the plant stems or tobacco leaves. The use of pruning shears also exposes children to sharp objects that can injure them. Position when pruning leaves exposes children to ergonomic hazards. If the activity of pruning leaf shoots is done during school hours, there is a risk

of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Pruning Leaf Shoots

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (knife, pruning shears)	Cuts, injury
Chemical Hazards	Pesticide, herbicide	Poisoning
	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Soil bacteria	Itch, allergy, illness
Ergonomic Hazards	Repetitive movement during leaf/leaf shoot pruning	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable position while pruning leaf/leaf shoot	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of pruning leaf shoots should not be done by children for the following reasons:

1. Using a sharp object (knife, pruning shears) for pruning is dangerous for children.
2. The chemical pesticides and herbicides that stick to the tobacco leaves exposes children to the risk of poisoning.
3. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
4. Potentially interfere with children's school time and reduce children's play time.

Removing Leaf Buds

Another important tobacco plant maintenance is removing leaf buds, usually called as topping. The purpose of topping is to accelerate and evenly distribute old (ripe) yellowish tobacco and thicken the leaves. The process of removing leaf buds is usually done manually using hands or using pruning shears and also using chemicals.

Removing leaf buds by using chemicals is carried out by smearing the plants using brush. But this process needs a lot of energy. Another economical way is by pouring it with special spray.

Potential Hazards and Risks to Children

During removing leaf buds, children are potentially exposed to chemicals that stick to the skin, plant stems or tobacco leaves. This activity also exposes children to the bacteria in the soil. The usage of sharp objects like knives, pruning shears and sickles also has the potential to injure children. The position while removing leaf buds exposes children to

ergonomic hazards. If the process of removing leaf buds is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Removing Leaf Buds

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (knife, sickles, pruning shears)	Cuts, injury
Chemical Hazards	Pesticide, herbicide	Poisoning
	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Soil bacteria	Itchiness, allergies, diseases
Ergonomic Hazards	Repetitive movements when removing leaf buds	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable position while removing leaf buds	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of removing leaf buds should not be done by children for the following reasons:

1. Using a sharp object (knife, sickles, pruning shears) to remove leaf buds is dangerous for children.
2. Children are potentially exposed to chemicals that stick to plant stems or tobacco leaves.
3. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
4. Potentially interfere with children's school time and reduce children's play time.

Raising the Mounds

The activity of raising a mound is carried out by hoeing the sides of the mounds and raising the soil up to the mound. This raised mound is intended to open the ground so that the air or oxygen replenishment process through water or air runs well. The mound is raised 2-3 times depending on the weather. This process is actually more important as an effort to clear the soil and kill weeds. When it rains, the soil must be immediately opened again by raising the mound. If not, the soil will become compressed and it will prevent root development.

Potential Hazards and Risks to Children

Raising the mound using hoes puts children at risk of injury. Raising the mound also exposes children to the risks of bacteria found in the soil. When raising the mound, children are also exposed to chemicals that stick to plants and fresh tobacco leaves. The repetitive movement of hoeing and the bending over working position can also make children experience back and hip pain, pain in the arms and shoulders. If the activity of raising the mound is done during school hours, there is a risk of disrupting children's

learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risk during Raising the Mound

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (hoe)	Injury
Chemical Hazards	Pesticide, herbicide	Poisoning, headaches
	Fresh tobacco leaves[23]	Green Tobacco Sickness (GTS)
Biological Hazards	Insect bite	Itchiness, allergies, diseases
	Soil bacteria	
Ergonomic Hazards	Repetitive movements during raising the mound	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable working position	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of raising the mounds should not be done by children for the following reasons:

1. Using a sharp object (hoe) to raise mounds is dangerous for children.
2. Children are potentially exposed to chemicals that stick to plant stems or tobacco leaves
3. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
4. Potentially interfere with children's school time and reduce children's play time.

[23] Tobacco leaves that are already thick enough risk of touching the children's body parts.

Administering Shoot Growth Inhibitor

Removing leaf buds is done to ensure plants grow as desired. The process of removing leaf buds is usually done manually using hands and also using chemicals. The best way to inhibit shoot growth is to wet the entire surface of the shoot by spraying or smearing it to the surface of the bud.

Potential Hazards and Risks to Children

In administering substances to inhibit shoot growth, children are potentially exposed to chemicals that stick to the leaves, plant stems and fresh tobacco leaves. The position while administering the chemicals exposes children to ergonomic risks. If this activity is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards during Administering Shoot Growth Inhibitor

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Pesticide, herbicide	Poisoning, headaches
	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Soil bacteria	Itchiness, allergies, diseases
Ergonomic Hazards	Repetitive movements of administering shoot growth inhibitor	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable position while administering shoot growth inhibitor	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of administering shoot growth inhibitor should not be done by children for the following reasons:

1. The use of chemical pesticides and herbicides exposes children to the risk of poisoning.
2. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
3. Potentially interfere with children's school time and reduce children's play time.

Fertilization

Fertilizing is done to ensure that plants get enough nutrition. Fertilizers can be in liquid or solid form which comes from chemicals or organic materials. Fertilizers are usually given in the morning or evening. Fertilisers in liquid form is generally done using spray pump. Applying liquid fertilizer can also be done using a bucket and pouring the liquid fertilizer using small plastic cup. Meanwhile solid fertilizers such as manure are usually sprinkled on the soil around the plants.

Potential Hazards and Risks to Children

Excessive loads when carrying the spray pump or when carrying a bucket filled with liquid expose a child to the risks of muscle fatigue in the shoulders and arms. Repetitive movements also expose children to the same hazards. In addition, the use of chemicals can lead to poisoning. The use of manure has the potential to expose children to bacteria that cause itchiness and disease. If fertilizing is done during school hours, it will potentially disrupt children's learning time. Likewise, if this activity is carried out outside school hours, it will potentially reduce children's play time.

Potential Hazards and Risks during Fertilization

Types of Hazards	Potential Hazards to Children	Risks
Biological Hazards	Water bacteria	Itchiness, allergies, diseases
	Soil bacteria	
	Manure	
Chemical Hazards	Pesticide, herbicide	Poisoning, headaches
	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Heavy leaves	Back pain, arm, shoulder pain and muscle, ligament and tendon disorders
	Uncomfortable position during fertilization	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The fertilizing activity should not be done by children for the following reasons:

1. The use of chemical pesticides and herbicides exposes children to the risk of poisoning.
2. The use of manure puts children at risk for disease.
3. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
4. Potentially interfere with children's school time and reduce children's play time.

Harvest

Tobacco Stalk Cutting

Harvesting tobacco leaves is done in two ways, leaves picking and stalk cutting. Stalk cutting is done by cutting the stalk and leaves exactly on the base of the stalk without paying attention whether the maturity level is evenly distributed or not. In some areas with limited labour, stalk cutting harvesting is more suitable because the use of labour is more efficient. In areas with low humidity, stalk cutting gives the leaves the possibility of not running out of water quickly during the drying process so the process can be done more perfectly.

Potential Hazards and Risks to Children

Tobacco stalk cutting is done by using sickles that has the potential to injure children. During this activity, children also have the potential to be exposed to Green Tobacco Sickness (GTS) from the fresh tobacco leaves. The tobacco stalk cutting activity also exposes children to the bacteria in the soil and the risk of being bitten by insects. The position and movement during cutting tobacco leaves also potentially risks children of

experiencing muscle fatigue in the shoulders and arms. If the tobacco stalk cutting is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Tobacco Stalk Cutting

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (sickles)	Cuts, injury
Biological Hazards	Soil bacteria	Itchiness, allergies, diseases
	Insect bites	
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movements of cutting tobacco stalks	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Uncomfortable position while cutting tobacco stalks	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of tobacco stalk cutting should not be done by children for the following reasons:

1. The usage of sharp objects (sickles) to cut the tobacco stalks is dangerous for children.
2. Pesticides and herbicides that stick to leaves expose children to the risk of poisoning
3. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
4. The potential to interfere with children's school time and reduce children's play time.

Picking Tobacco Leaves

This activity is usually done during a certain period of time depending on the harvesting area and the number of available labour. The method of harvesting by gradual picking of the leaves based on their maturity level provides another advantage, that is being an early step in grading process. This is because the leaves ripen sequentially starting from the lower leaves and then followed by the leaves above, so that the leaves sorting based on the position on the stem has already been carried out at once.

Potential Hazards and Risks to Children

The activity of picking tobacco leaves makes children potentially exposed to Green Tobacco Sickness (GTS) from the fresh tobacco leaves, to the bacteria in the soil and to the risk of being bitten by insects. The position and movement during picking tobacco leaves also potentially risks children of experiencing muscle fatigue in the shoulders and arms. If the tobacco leaves picking is done during school hours, there is a risk of disrupting

children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Picking Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Exposure to hot sun	Headaches
		Dehydration
		Skin irritation
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Soil bacteria	Itchiness, allergies, diseases
	Insect bites	
Ergonomic Hazards	Repetitive movements of picking tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Uncomfortable working position	
Psychosocial Hazards	Children are forced to work	Disrupting children's school hours, reducing children's play time, fatigue, stress.
	Long period of working	

Conclusion

The activity of picking tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Collecting Tobacco Leaves

During harvest, the harvested leaves are stored in a certain container or collected at certain point in the planting area. After collecting enough leaves, the crops are then transported from the planting area to the predetermined area in the farm.

Generally, the farmer has built a small huts on the edge of their land as temporary shelter. Because the harvesting process requires timeliness, the harvesting process is carried out intensively for several days until the entire crop is successfully harvested. Harvest work is usually carried out from morning to evening. The crops are collected or stacked in several temporary containers for transportation.

Potential Hazards and Risks to Children

The activity of collecting tobacco leaves that is carried out throughout the day gives children the potential to be exposed to the hot sun. Children also have the potential to be

exposed to fresh tobacco leaves which can make them experience Green Tobacco Sickness (GTS). The process of collecting tobacco leaves risks exposing children to insect bites. The process of lifting and collecting tobacco leaves puts children at risk of back pain, arm and shoulder pain. Because the collecting tobacco leaves process is done in parallel with the picking, the long working hours has the potential to make children tired, disrupting their school hours and reducing children's play time.

Potential Hazards and Risks during Collecting Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Exposure to hot sun	Headaches
		Dehydration
		Skin irritation
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Soil bacteria	Itchiness, allergies, diseases
	Insect bites	
Ergonomic Hazards	Lifting and transporting crops	Back pain, arm, shoulder pain and muscle and joint disorders
	Uncomfortable working position	
Psychosocial Hazards	Children are forced to work	Disrupting children's school hours, reducing children's play time, fatigue, stress.
	Long period of working	

Conclusion

The activity of collecting tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Packing Tobacco Leaves

The first process after picking tobacco leaves is packing them. Tobacco leaves are arranged by stacking the leaves and then tied in the middle. Leaves that have been picked and collected are then put in a basket and taken to the house/warehouse. During the packing process, it is important to pay attention to how to tie the leaves to avoid bruising and browning quickly during curing. Usually farmers use sack, rope, or other materials to pack the tobacco leaves that have been harvested.

Potential Hazards and Risks to Children

The activity of packing tobacco leaves that is carried out throughout the day give children the potential to be exposed to the hot sun. Children also have the potential to be exposed to fresh tobacco leaves which makes them experience Green Tobacco Sickness (GTS). The process of packing tobacco leaves risks exposing children to insect bites. The repetitive movement of packing also exposes children to ergonomic hazards. Likewise, the long

working hours have the potential to make children tired, disrupting their school hours and reducing children's play time.

Potential Hazards and Risks during Packing Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Exposure to hot sun	Headaches
		Dehydration
		Skin irritation
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Soil bacteria	Itchiness, allergies, diseases
	Insect bites	
Ergonomic Hazards	Repetitive movement during packing tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Uncomfortable working position	
Psychosocial Hazards	Children are forced to work	Disrupting children's school hours, reducing children's play time, fatigue, stress.
	Long period of working	

Conclusion

The activity of packing tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Transporting Tobacco Leaves (from Field to Farmers' House/Warehouse)

After the harvesting process is finished, the crops are then transported to a special storage area. The special storage areas are generally located close to the farmers' house or stored inside the house. The transportation process is carried out using a transport vehicle. If a vehicle is not available, the crops will be transported by carrying them on the shoulder and on foot.

Potential Hazards and Risks to Children

The chemicals attached to the crops expose children to the risk of chemical poisoning when the children transport the crops to the vehicle. In addition to that, the excessive workload and repetitive movement expose children to ergonomic hazards in the form of muscle fatigue and pain in the shoulders, arms and back. The exposure to fresh tobacco leaves has the potential to make children develop Green Tobacco Sickness (GTS). The process of transporting crops also has the potential to disrupt children's school hours and reduce their play time.

Potential Hazards and Risks during Transporting Tobacco Leaves (from Field to Farmers' House/Warehouse)

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Working with and ride a transport vehicle	Falling, run over by a car
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Biological Hazards	Insect bites	Itchiness, allergies, diseases
Ergonomic Hazards	Lifting, transporting and lowering the crops from vehicle	Back pain, arm, shoulder pain and muscle and joint disorders
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of transporting tobacco leaves (from field to farmers' house/warehouse) should not be done by children for the following reasons:

1. Sitting on a pile of tobacco in a car jeopardizes the safety of children.
2. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
3. The potential to interfere with children's school time and reduce children's play time.

Post-Harvest

Preparing/Cleaning Pipes in the Oven

One method to dry tobacco is using oven. The oven is a medium to dry tobacco. The process of preparing or cleaning the oven is carried out to ensure that all the tools used for the drying process, such as the bamboo sticks *(gelantang)* and tray *(pelu)* racks in the oven, are in good condition. Then these tools are installed. Before use, the inside of the oven and pipes are cleaned. The tools commonly used to clean the oven is a wooden stick with a sack at the end. Repairs are also carried out in this activity, if damage are found in the oven racks and tray.

Potential Hazards and Risks to Children

The activity of preparing/cleaning pipes in the oven gives the child the potential to breathe in the remaining dust and tobacco leaf flakes. If the oven runs on fuel, soot usually develops. The soot contains substances that are harmful when inhaled and in contact with the skin. The active ingredients in the soot will be absorbed through the skin pores and systematically circulated and have the potential to cause health problems. If children have

to repair some damages in the oven or to get the bamboo sticks changed, children are potentially injured from using hammers, nails, saws, and machetes to fix those damages. Installing the rack in the oven to a certain height exposes the child to the risks of falling. The cleaning movement at the top of the oven, using a wooden stick with a sack at the end, exposes children to ergonomic hazards. If the activity of preparing/cleaning pipes in the oven is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Preparing/Cleaning Pipes in the Oven

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (nails, wood, saw, machete)	Injury, cuts
	Installing racks in the oven to a certain height	Falling
Biological Hazards	Dust	Inhalation
	Tobacco leaf flakes	
Chemical Hazards	Soot	Health problems
Ergonomic Hazards	Cleaning movement at the top of the oven	Back pain, arm and shoulder pain
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of preparing/cleaning pipes in the oven should not be done by children for the following reasons:

1. The usage of sharp objects (nails, wood, saws, machetes) to prepare/clean pipes in the oven is dangerous for children.
2. Working at a height has the potential to make children fall.
3. The potential to interfere with children's school time and reduce children's play time.

Chopping, Preparing, or Arranging Firewood

Firewood is mostly used for tobacco drying in the oven. To get firewood, farmers usually buy it in pieces. There are also farmers who purposely store wood in *embung* (storage) to cut them into pieces by themselves. To cut firewood, they usually use chainsaws and axes.

Currently, apart from firewood, the farmers also use dried corn cobs and candlenut shells to heat the ovens. Some other farmers use gas and diesel as a fuel.

Potential Hazards and Risks to Children

The use of axes or chainsaws to chop firewood puts children at risks of being injured or cuts. Sawdust or residue during sawing has the potential to be inhaled by children. If using corncobs, children are potentially exposed to sunburn when drying the corncobs. Repetitive movements when using an axe to chop wood exposes child to ergonomic hazards of muscle fatigue and shoulders, arms, and back pain. The act of lifting and

holding the vibration of the saw poses similar risks. If the activity of chopping, preparing or arranging firewood is done during school hours, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Chopping, Preparing or Arranging Firewood

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (axe, saw)	Wounded, cuts
	Saw vibration	Bone, joint, and muscle disorders
Biological Hazards	Sawdust	Inhalation
	Dust from corncob and pecan shells	
Ergonomic Hazards	Repetitive movements of using an axe and saw	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	The weight of lifting saw[24]	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of chopping, preparing or arranging firewood should not be done by children for the following reasons:

1. The usage of sharp objects (axe, saw) to cut firewood is dangerous for children.
2. The use of chainsaws requires expertise and sufficient manpower.
3. The potential to interfere with children's school time and reduce children's play time.

[24] The workload exceeds the capacity of the child and has the potential to injure the child.

Putting Firewood into the Oven

Drying tobacco leaves using the oven takes 4 to 5 days. During this time, the fire should not be turned off or get too hot. Therefore, the activity of arranging the wood in the oven for the drying process determines the quality of the dried tobacco leaves.

Potential Hazards and Risks to Children

The process of putting firewood into the oven exposes children to the hazards of high heat from fire and fire sparks that might cause burns. Children also are at risk of falling into the fire. The smoke has a potential to be inhaled by the children which will asphyxiate them. Working in the heat for a long period of time will make them excrete a lot of sweat and cause dehydration. Prolonged dehydration will affect the circulation system and has the potential of vital organ disorders – especially the kidney. The process of putting firewood into the oven also exposes children to ergonomic hazards. The activity of putting firewood into the oven in a period of days has the risk of disturbing children's learning time and reducing their play time.

Potential Hazards and Risks during Putting Firewood into the Oven

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Fire heat	Burn, dehydration, vital organs disorder like kidney
	Fire sparks	
	Falling into the fire	
Biological Hazards	Inhaling excessive smoke[25]	Asphyxiation
		Respiratory system irritation
		Irritation of the conjunctiva
Ergonomic Hazards	The weight of lifting firewood	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The act of putting firewood into the oven should not be done by children for the following reasons:

1. Children have the potential to get burned or exposed to fire sparks.
2. Children have the potential to inhale the smoke excessively.
3. The potential to interfere with children's school time and reduce children's play time.

[25] See footnote no. 10

Arranging Tobacco Leaves

Leaves, after carried into the house or warehouse, are arranged for curing. The tobacco leaves are arranged in which the base of the leaf bone is positioned below. During this arrangement process, there is also a sorting process, immature leaves and over ripe leaves that were harvested would be separated. Over ripe leaves are placed in the bottom, well-matured and ripe leaves in the middle, and immature leaves on top.

Potential Hazards and Risks to Children

The act of arranging tobacco leaves that is done the whole day has the potential to drain the children's energy. The working position that is not ergonomic and done repeatedly will lead to physical disorders. Children are also potentially exposed to fresh tobacco which can give them Green Tobacco Sickness (GTS). The process of arranging leaves also risks children with insect bites. The lengthy process to arrange tobacco leaves make children potentially tired, disturb their school hours and reduce their play time.

Potential Hazards and Risks during Arranging Tobacco Leaves

Types of Hazards	Potential Hazard to Children	Risks
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of arranging leaves.	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Sitting position in long period of time	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of arranging tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Removing Bone from Leaves

The act of removing bone from leaves is done after the tobacco leaves are cured. Tobacco leaves with pretty good quality will get its bone removed two-thirds of the way from its stem, unless the stem is too small. The process of removing bone from leaves has to be done carefully so that the leaves will not be damaged.

Potential Hazards and Risks to Children

The activity of removing bone from leaves that is done the whole day has the potential to drain the children's energy. The repetitive movement of removing bone from leaves and sitting in a long period of time exposes children to ergonomic hazards. Children are also potentially exposed to fresh tobacco which will lead to Green Tobacco Sickness (GTS). The process of removing bones from leaves also risk children with insect bites. The lengthy

process to remove bone from leaves makes children potentially tired, disturb their school hours and reduces their play time.

Potential Hazards and Risks during Removing Bone from Leaves

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of removing bone from leaves.	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Sitting position in long period of time	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of removing bone from leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Rolling Tobacco Leaves

For chopped tobacco, the rolling of tobacco leaves is a preparatory work for cutting. Leaves that have already been rolled will easily slide into the cutting machine hole. These

leaves will be rolled with yellow-coloured leaves outside and green leaves inside and then will be cured for the next 1-2 days so that the green leaves will turn yellow or green-yellow and ready for cutting. Each roll consists of 15-20 leaves with the same yellow and green leaves composition. This is done with a purpose of helping to flatten shredded pieces so that less tobacco is damaged (bruised).

Potential Hazards and Risks to Children

The activity of rolling tobacco leaves that is done the whole day has the potential to drain the children's energy. The repetitive movement of doing something with weight and in the same position for a long period of time will lead to disorders of the muscles, ligament and tendon. Children are also potentially at risk of developing Green Tobacco Sickness (GTS). The lengthy process of rolling tobacco leaves makes children potentially tired, disturbs their school hours and reduces their play time.

Potential Hazards and Risks during Rolling Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of rolling tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Sitting position in long period of time	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of rolling tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risks children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Arranging Tobacco Leaf Rolls

Tobacco leaves that have been rolled will be cured again for 1-2 night so that the immature leaves would mature and ready for cutting. The pile of rolled tobacco is ensured to be not too high to prevent the tobacco leaves getting damaged or bruised. If the pile is deemed too high, the process of arrangement will maximize the use of the space.

Potential Hazards and Risks to Children

The arrangement of tobacco leaves that is done the whole day has the potential to drain the children. The repetitive movement to take and arrange the rolled tobacco causes the children to experience disorders of the muscles, ligament and tendon. Children are also potentially exposed to fresh tobacco leaves which will lead to Green Tobacco Sickness (GTS). The lengthy process of arranging tobacco leaves makes children potentially tired, disturb their school hours and reduces their play time.

Potential Hazards and Risks during Arranging Tobacco Leaf Rolls

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of arranging tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of rolling tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risks to children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Cutting Tobacco Leaves

Cutting tobacco leaves can be done manually or by a machine. The knives used to cut have to be very sharp to ensure a quality and uniform cut. A dull knife causes many of the pieces to be bruised and dull as a result of improper cutting.

Cutting is usually done midnight to early morning, so that the shredded pieces can be dried under the sun in the morning. A long grace period between cutting and drying would lower the quality index.

Potential Hazards and Risks to Children

Cutting, whether using a knife or machine, has the potential to injure children. The repetitive movement in cutting tobacco leaves exposes children to ergonomic hazards. Children also have the potential to be exposed to fresh tobacco leaves which will cause them to develop Green Tobacco Sickness (GTS). Cutting that is carried out at night until the morning reduces the child's sleep and disturbs school hours.

Potential Hazards and Risks during Cutting Tobacco Leaves

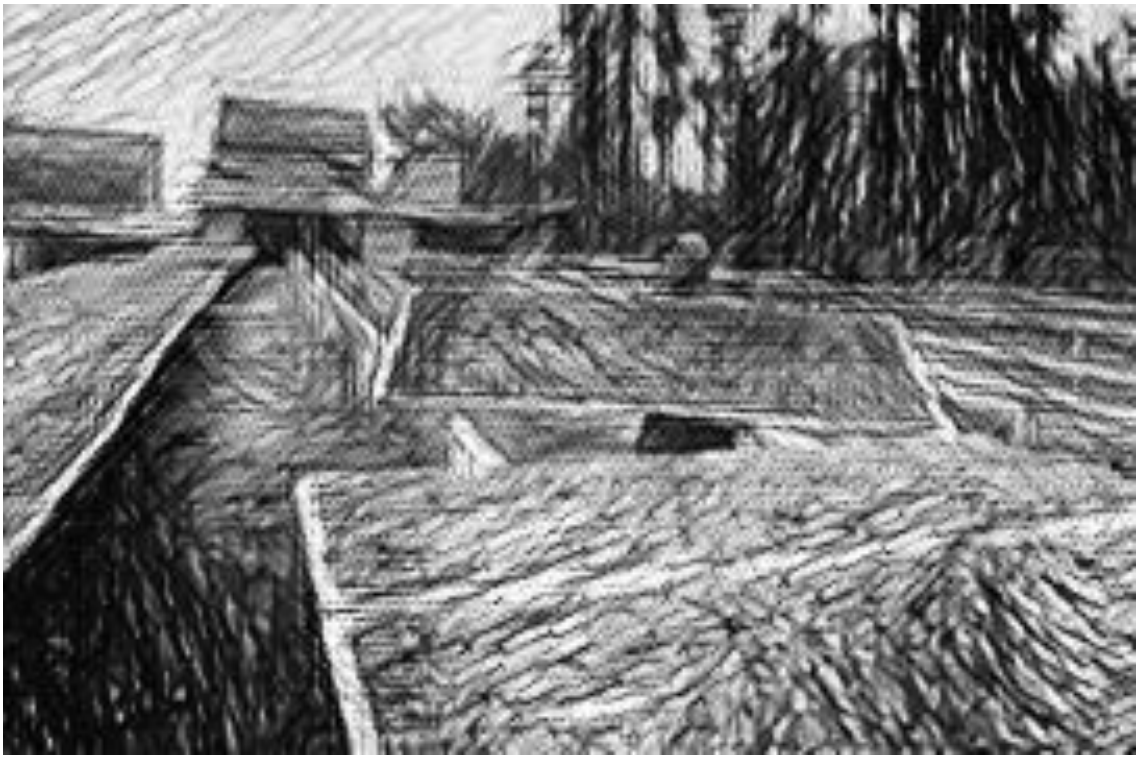
Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (knife, cutting machine)	Graze, cut
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of cutting tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of cutting tobacco leaves should not be done by children for the following reasons:

1. Sharp objects that are used (knife, cutting machine) to cut tobacco leaves put children in harm's way.
2. The activity is done in midnight to early morning.
3. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
4. The potential to interfere with children's school time and reduce children's play time.

Drying Tobacco Leaves



In general, for chopped tobacco, drying is intended to release most of the water from tobacco leaves to increase its durability in storage. The method of drying begins by spreading the tobacco leaves over a *widig* (woven bamboo strips) and then drying them under the sun.

To dry tobacco evenly, at midday the chopped leaves are flipped. Drying is considered complete if the chop is rough to hold and easily breaks. Then the *widig* along with the tobacco on its top are piled in a closed room for one or two days so that the pieces become limp.

Potential Hazards and Risks to Children

The activity of drying and turning the chops exposes children to the hot sun. *Widig* that is made of bamboo slats may injure children. Repetitive movements and squatting positions

to flatten the chop expose children to ergonomic hazards. Likewise, the process of lifting and turning a *widig* exposes a child to the same hazards. Children also have the potential to be exposed to fresh tobacco leaves which will cause them to develop Green Tobacco Sickness (GTS). The activity of drying that is done from morning to evening has the potential to disturb children's school hours and reduces their play time.

Potential Hazards and Risks during Drying Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	*Widig*'s sharp side	Cuts
	Burning sun	Headache
		Dehydration
		Skin irritation
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of drying (*ngeler*) tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Lifting and flipping *widig*	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of drying tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Folding Dried Tobacco Leaves

Chopped tobacco leaves that has been dried and rolled will then be arranged in a bamboo basket. This bamboo basket have dried banana stem on its base. The function of this banana stem is not just as a lining but also a wrapper.

Potential Hazards and Risks to Children

Dried tobacco leaves flakes and dust during the folding process poses risks of children inhaling it. Sitting position and repetitive movement of folding the tobacco leaves will leave children with muscles, ligament and tendon disorders. If this folding activity is done during school time, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Folding Dried Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	The smell of tobacco leaves	Headache
Biological Hazards	Dust	Inhalation
	Dried tobacco flakes	
Ergonomic Hazards	Repetitive movement of folding dried tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Sitting position in long period of time	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of folding dried tobacco leaves should not be done by children for the following reasons:

1. The smell of dried tobacco leaves makes children experience headaches.
2. The potential to interfere with children's school time and reduce children's play time.

Piercing

Before being cured (such as in oven method) tobacco leaves are arrange by piercing the base of the leaf stalk or on the segment of stem between the two leaves. Piercing is done to ease drying arrangement and prevent the leaves from sticking or huddling together during high humidity conditions so that the leaves can dry evenly. The method of piercing varies greatly depending on the method of harvesting (leaf or stem harvesting). The leaves that have been arranged are tied to bamboo in a shady place so that the leaves do not wither, after that they are placed on shelves where they are dried outdoors in the air, dried in the sun or in the oven.

Potential Hazards and Risks to Children

Bamboo slats used to pierce tobacco leaves as well as needles that are used to tie tobacco leaves have the potential to injure children. Children are also at risk of developing Green Tobacco Sickness (GTS) from the fresh tobacco leaves. Repetitive movement and a long

period of staying in sitting position exposes children to ergonomic hazards. If piercing is done during school time, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Piercing *(Menyujen)*

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Sharp objects (bamboo slats, needle, stick)	Punctured, cut
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of piercing	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Sitting position in long period of time	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of piercing *(menyujen)* should not be done by children for the following reasons:

1. Sharp objects that are used (bamboo slats, needle) to cut tobacco leaves put children in harm's way.
2. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
3. The potential to interfere with children's school time and reduce children's play time.

Tying Tobacco Leaves

After tobacco leaves are pierced, the leaves are to be tied. In this activity, tobacco leaves are first sorted before tied. Each bundle consists of 120-150 leaves. The rope used is made from yarn or burlap rope. The binding should be tight enough so that dry, shrinking leaves do not fall off while krosok (whole leave) are still in the oven or when it is removed from the oven.

Potential Hazards and Risks to Children

Children are at risk of developing Green Tobacco Sickness (GTS) due to the exposure to fresh tobacco leaves. The repetitive movement and a long period of staying in sitting position exposes children to ergonomic hazards. If tying is done during school time, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards during Tying Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of tying tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Sitting position in long period of time	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of tying tobacco leaves should not be done by children for the following reasons:

1. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Hanging Tobacco Leaves (Curing)

The curing method can be done by hanging the tobacco leaves that have been attached to the bamboo sticks *(digelantang)* or by stacking or arranging the leaves on the floor with a mat to avoid dirt and the leaves are arranged according to their maturity level. The base of the leaf bone were positioned at the below. Likewise, the wall, if possible is coated with *gedeg* (thin bamboo mat) to protect the leaves from cold temperatures at night, then the pile of leaves is covered. Curing is ended when the leaves have turned yellow, then the base of the leaf bone is removed carefully to avoid bruising, and next the rolling is done.

Potential Hazards and Risks to Children

During curing, children are at risk of developing Green Tobacco Sickness (GTS) from the exposure to fresh tobacco leaves. Repetitive movement of lifting heavy weights to a certain height in order to hang the leaves has the risk of causing muscle, ligament, and tendon disorders in the hands. If hanging tobacco leaves is done during school time, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Hanging Tobacco Leaves (Curing)

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of hanging tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of hanging tobacco leaves (curing) should not be done by children for the following reasons:

1. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
2. The potential to interfere with children's school time and reduce children's play time.

Packing Dried Tobacco Leaves

The sorted tobacco leaves are then tied into a bunch *(diunting)* with the tie placed facing the rim or in contact with the basket that is used for packing. Each basket (package) will be filled to its capacity but it need not to be compressed. This packaging is carried out for tobacco leaves weighing 40-50kg which consists of the same quality to facilitate the aging process. In addition, each basket is filled with the same volume size to make it easier to organize during storage in the warehouse.

Potential Hazards and Risks to Children

Dust and dried tobacco leaves are at risk of being inhaled by children. This dry tobacco leaves packaging also has the potential to cause children to experience back, arm, and shoulder pains due to the repetitive movements. If the tobacco leaves packing process is done during school time, there is a risk of disrupting children's learning time. Likewise, if

this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Packing Dried Tobacco Leaves

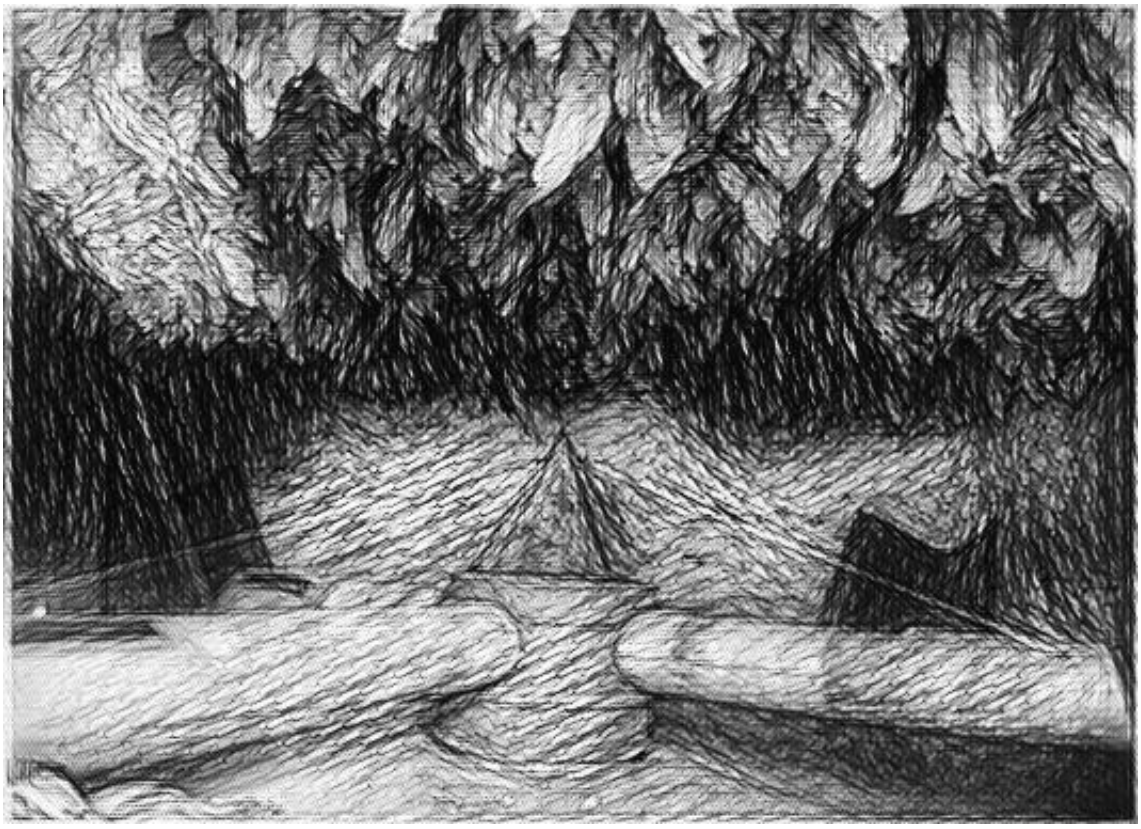
Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	The smell of dried tobacco leaves	Headache
Biological Hazards	Dust	Inhalation
	Dried tobacco flakes	
Ergonomic Hazards	Repetitive movement during packing	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of packing dried tobacco leaves should not be done by children for the following reasons:

1. The smell of dried tobacco leaves makes children experience headaches.
2. The potential to interfere with children's school time and reduce children's play time.

Putting and Arranging Tobacco Leaves into the Oven



Tobacco leaves that have been attached to bamboo sticks are then put and set in the oven. The arrangement in storing leaves in the oven starts with green under ripe leaves on the top shelf, optimal ripe leaves that are yellowish green on the middle rack and overripe leaves on the bottom shelf.

The arrangement of leaves has a big influence on the quality of *krosok* (whole leave) and the smoothness of other oven drying activity. If the oven is overcrowded – especially if it's to increase its capacity – the airflow in the oven chamber will be hampered and not evenly distributed.

Potential Hazards and Risks to Children

The activity of lifting and transporting tobacco leaves repeatedly exposes children to ergonomic hazards. While arranging tobacco leaves in the oven to a certain height, children are at risk of falling. This activity also put children at risk of developing Green Tobacco Sickness (GTS) from the exposure to fresh tobacco leaves. If the process of putting and arranging tobacco leaves into the oven is done during school time, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Putting and Arranging Tobacco Leaves into the Oven

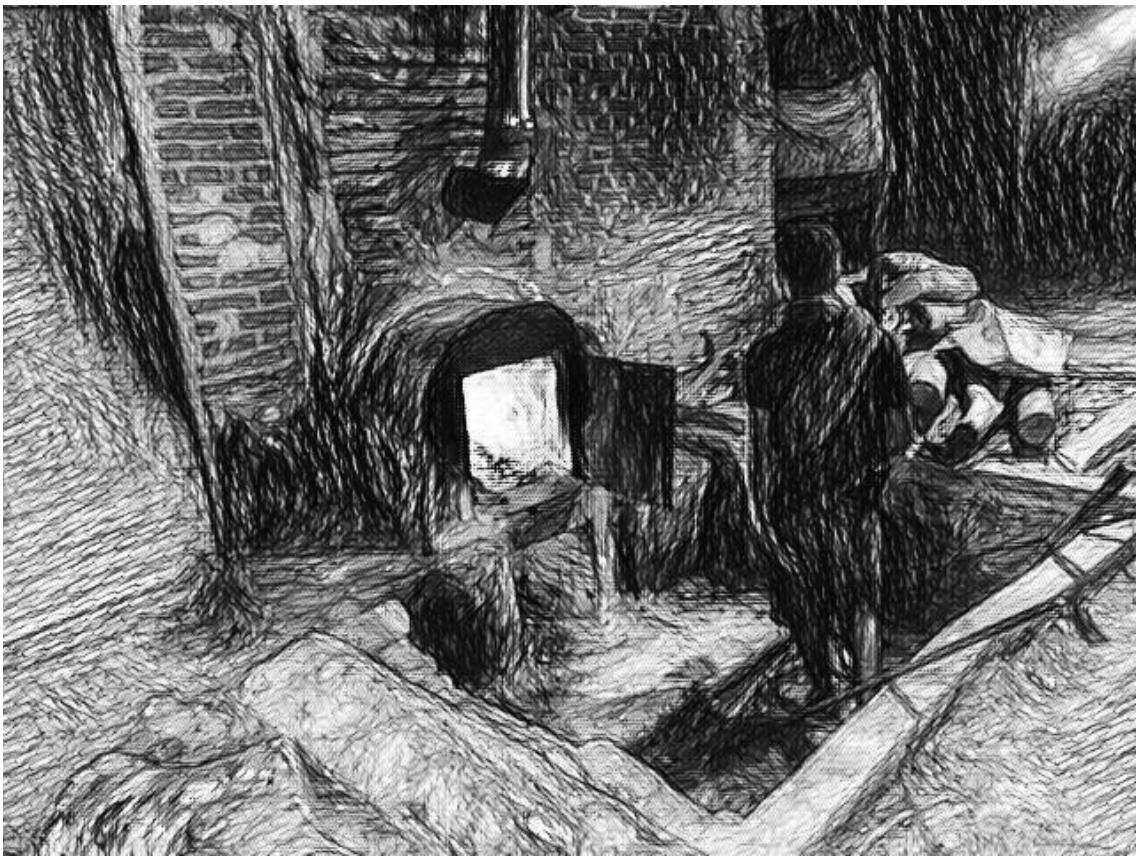
Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Arranging tobacco leaves at certain height	Falling
Chemical Hazards	Fresh tobacco leaves	Green Tobacco Sickness (GTS)
Ergonomic Hazards	Repetitive movement of lifting and transporting	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of putting and arranging tobacco leaves into the oven should not be done by children for the following reasons:

1. Working at a certain height exposes the child to the potential of falling.
2. Fresh tobacco leaves risk children to develop Green Tobacco Sickness (GTS).
3. The potential to interfere with children's school time and reduce children's play time.

Controlling Oven's Temperature



The temperature and humidity settings in the oven are based on the need of each phase, namely yellowing, binding, and drying. The process of increasing the temperature is carried out in these phases. In each oven there is a dry and wet ball thermometer as a basis for knowing whether changes in temperature and humidity at each stage of the oven are needed. The person in charge of controlling the temperature is called a stoker.

Potential Hazards and Risks to Children

Ensuring that the oven temperature is appropriate for any stage exposes children to the danger of hot flames and sparks which could result in burns. Children also have the potential to fall into the fire. Combustion smoke has the potential to be inhaled by the children and put them at risk of asphyxiation. The lengthy period of drying makes children

have to be alert to control and regulate the temperature. This disrupts children's school hours and their play time. Lifting and transporting wood to put it in the stove to control the temperature exposes children to ergonomic hazards.

Potential Hazards and Risks during Controlling Oven's Temperature

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Fire heat	Burn, dehydration, and concentration disorders
	Heat	
	Falling into the fire	
Ergonomic Hazards	Repetitive movements of lifting and transporting firewood	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of controlling oven's temperature should not be done by children for the following reasons:

1. Children have the potential to get burned or exposed to sparks.
2. Children have the potential to inhale the smoke excessively.
3. The potential to interfere with children's school time and reduce children's play time.

Removing Tobacco Leaves from the Oven

Removing tobacco leaves from the oven is done carefully by using a rope to keep the tobacco leaves from being damaged by harsh treatment. Then the leaves are placed or hung on the prepared shelves.

Tobacco leaves that have been removed from the oven is stored in a special place which is usually called *tetarik* to be aerated.

Potential Hazards and Risks to Children

Removing tobacco leaves from the oven risks children to fall from height. The dust and tobacco leaves flakes can also be inhaled by children. The repeated movements to remove and lift tobacco to *tetarik* exposes them to ergonomic hazards. If the process of removing tobacco leaves from the oven is done during school time, there is a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Removing Tobacco Leaves from the Oven

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Taking tobacco leaves from height	Falling
Chemical Hazards	The smell of tobacco leaves	Headache
Biological Hazards	Dust	Inhalation
	Tobacco leaves flakes	
Ergonomic Hazards	Lifting and transporting leaves out[26]	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

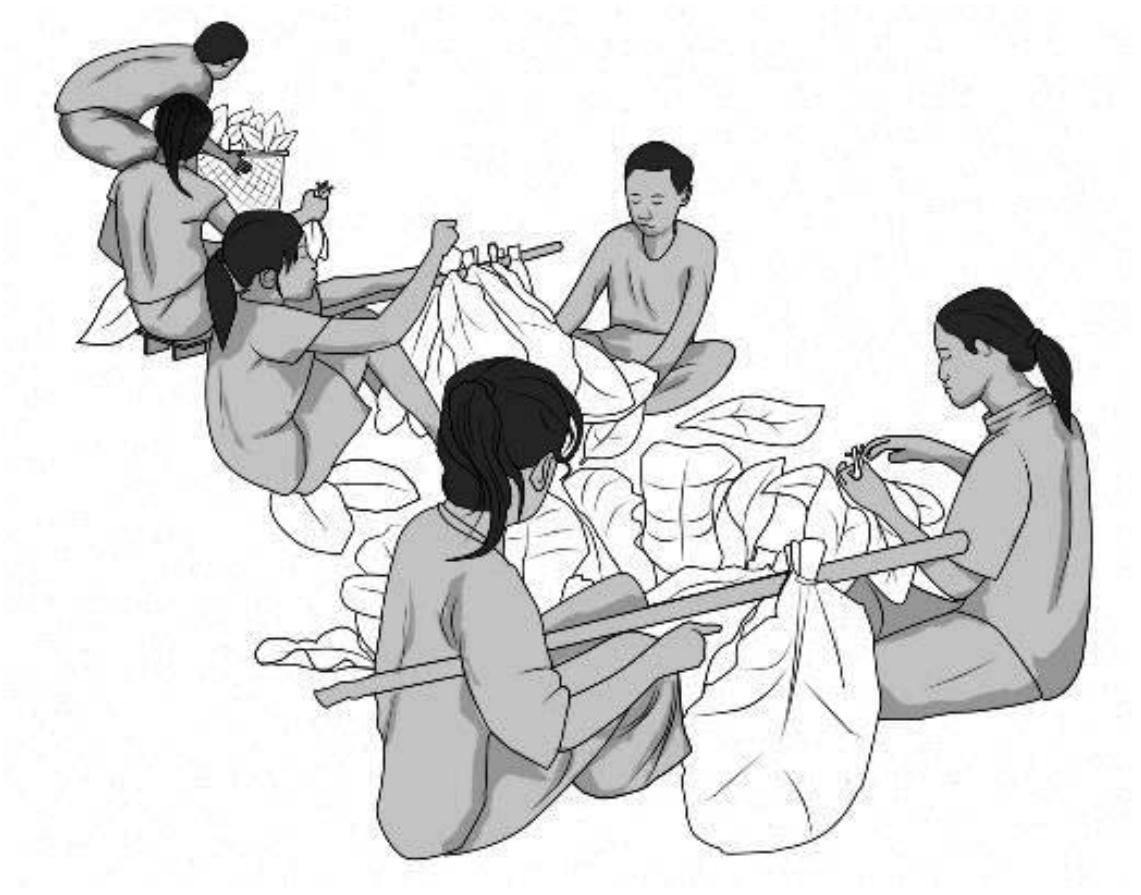
Conclusion

The activity of removing tobacco leaves from the oven should not be done by children for the following reasons:

1. Working at a certain height exposes the child to the potential of falling.
2. The smell of dried tobacco leaves makes children experience headaches.
3. The potential to interfere with children's school time and reduce children's play time.

[26] The process of removing the leaves from the oven requires precision and forces the body's muscle to adjust its position. If this is done repeatedly for a long time it will cause muscle, ligament and tendon disorders.

Untying Tobacco Leaves



The dried tobacco leaves are then transported and stored in a place protected from sunlight and rain. The goal is to relax the leaves so they are not porous and not easily crushed. The leaves are then untied or removed from the bamboo sticks.

Potential Hazards and Risks to Children

Dust and dried tobacco leaves flakes have the potential to get inhaled by children. The residual odor of dried tobacco leaves can also potentially be inhaled by children. The process of releasing dry tobacco leaves from bamboo have the potential to injure children. Likewise, the bamboo that is used to tie the dried tobacco leaves that has been sorted has the potential to harm children. Untying activity and prolonged sitting position expose

children to ergonomic hazards. The activity of untying dry tobacco leaves also has the potential to disrupt children's learning time or their play time.

Potential Hazards and Risks during Untying Tobacco Leaves

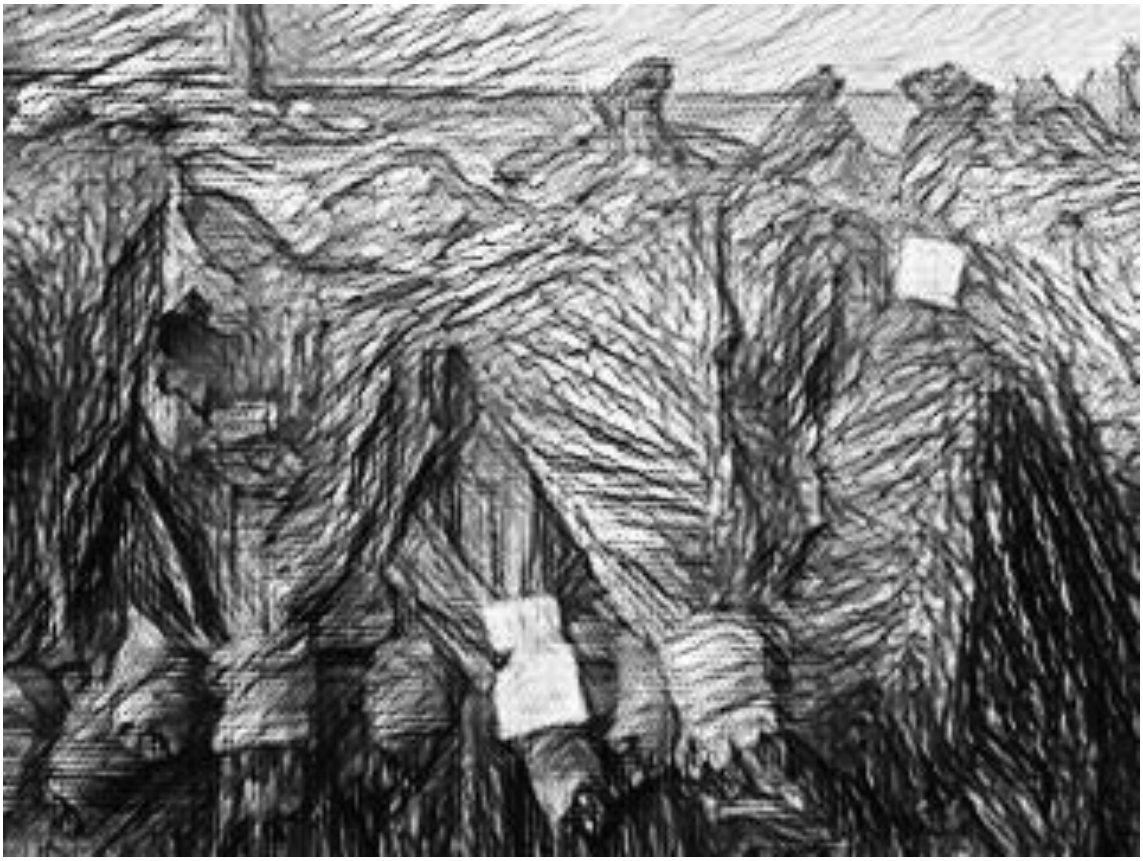
Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Bamboo to tie dried tobacco leaves	Cuts, punctures
Chemical Hazards	The smell of tobacco leaves	Headache
Biological Hazards	Dust	Inhalation problem
	Tobacco leaves flakes	
Ergonomic Hazards	Repetitive movement to untie the leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Uncomfortable working position	
	Prolonged sitting position	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of untying tobacco leaves should not be done by children for the following reasons:

1. Bamboo that is used to tie tobacco leaves has the potential to injure children.
2. The smell of dried tobacco leaves makes children experience headaches.
3. The potential to interfere with children's school time and reduce children's play time.

Stacking Tobacco Leaves



The dried tobacco leaves that have been released from its bunch are stored and arranged for sorting. The tobacco leaves are arranged by stacking it. However, to keep the tobacco from being damaged or destroyed when arranged, the stack should not be too high.

Potential Hazards and Risks to Children

Dust and dried tobacco leaves flakes has the potential to get inhaled by children. Dried tobacco leaves' smell also has the potential to get inhaled by the children. The process of releasing dry tobacco leaves from bamboo have the potential to injure children. Likewise, the bamboo that is used to tie the dried tobacco leaves that has been sorted has the potential to harm children. Lifting, transporting, and prolonged sitting position exposes

children to ergonomic hazards. The activity of stacking tobacco leaves also has the potential to disrupt children's learning time or their play time.

Potential Hazards and Risks during Stacking Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	The smell of tobacco leaves	Headache
Biological Hazards	Dust	Inhalation problem
	Tobacco leaves flakes	
Ergonomic Hazards	Repetitive movements of lifting, transporting, and stacking tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Uncomfortable working position	
	Prolonged sitting position	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of stacking tobacco leaves should not be done by children for the following reasons:

1. The smell of dried tobacco leaves makes children experience headaches.
2. The potential to interfere with children's school time and reduce children's play time.

Sorting Tobacco Leaves

Tobacco leaves are sorted based on its quality, pattern, thickness and defects. There is another term regarding the quality beside sorting, namely grading, which is sorting that uses the factor of position of leaves on the stem, the color of the krosok (whole leave), and the ripening of leaves as criterions. The simplest quality sorting method uses color, thickness of the krosok, and leaf shape.

Potential Hazards and Risks to Children

In this activity, children might breathe in dust and dried tobacco leaves flakes. Dried tobacco leaves' smell also has the potential to get inhaled by the children. Repetitive movements and prolonged sitting positions while sorting expose children to ergonomic hazards. The activity of sorting tobacco leaves also has the potential to disrupt children's learning time or their play time.

Potential Hazards during Sorting Tobacco Leaves

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	The smell of tobacco leaves[27]	Headache
Biological Hazards	Dust	Inhalation problem.
	Tobacco leaves flakes	
Ergonomic Hazards	Repetitive movement while sorting	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Uncomfortable working position	
	Prolonged sitting position	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of sorting tobacco leaves should not be done by children for the following reasons:

1. Dried tobacco leaves make children experience headaches.
2. The potential to interfere with children's school time and reduce children's play time.

[27] Working in a place or room that is used to store tobacco for a long time and repeatedly will cause discomfort and even health problems such as nausea, vomiting and dizziness.

Transporting Tobacco Leaves to Storage

The sorted tobacco leaves are then transported to storage. If the storage area is at home or near the house, then the transportation is done by carrying the leaves on the back. If the storage area is far from the drying and sorting place, then the transportation of tobacco leaves is carried out by using pickup trucks.

Potential Hazards and Risks to Children

In this activity, children might breathe in dust and dried tobacco leaves flakes. Dried tobacco leaves' smell also has the potential to get inhaled by the children. The heavy weight of tobacco leaves and repetitive movements when transporting tobacco leaves expose children to ergonomic hazards. The activity of transporting tobacco leaves to storage also has the potential to disrupt children's learning time or their play time.

Potential Hazards and Risks during Transporting Tobacco Leaves to Storage

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	The smell of tobacco leaves	Headache
Biological Hazards	Dust	Inhalation problem.
	Tobacco leaves flakes	
Ergonomic Hazards	Repetitive movement while transporting	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Heavy weight	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of transporting tobacco leaves to storage should not be done by children for the following reasons:

1. Dried tobacco leaves make children experience headaches.
2. The potential to interfere with children's school time and reduce children's play time.

Arranging Tobacco Leaves in Storage

Before the delivery process for sale, the tobacco leaves is usually collected and stored in a special storage. The storage is usually around the house or inside the house. When the harvest is plentiful, the storage is around the agricultural area.

Potential Hazards and Risks to Children

Nicotine found in green tobacco leaves expose children to the dangers of nicotine which can lead to dizziness, nausea, and vomiting. The storage process by stacking the pile up high also makes children at risk of falling from height. The repetitive movements to pile up the leaves potentially gives children ergonomic hazards. The activity of arranging tobacco leaves in storage also has the potential to disrupt children's learning time or their play time.

Potential Hazards and Risks during Arranging Tobacco Leaves in Storage

Types of Hazards	Potential Hazards to Children	Risks
Physical Hazards	Arranging a high pile of harvests	Falling
Chemical Hazards	The smell of tobacco leaves	Headache
Biological Hazards	Dust	Inhalation problem.
	Tobacco leaves flakes	
Ergonomic Hazards	Lifting and transporting tobacco leaves	Back, arm, shoulder pain
	Heavy weight	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of arranging tobacco leaves in storage should not be done by children for the following reasons:

1. Working at a certain height exposes the child to the potential of falling.
2. Dried tobacco leaves make children experience headaches.
3. The potential to interfere with children's school time and reduce children's play time.

Packing Before Selling

The sorted tobacco leaves are then folded and tied according to the sorting results before the packing process in a special basket is carried out. The Baskets are made from woven bamboo or easily assembled wood. Furthermore, the basket is given a base of dried banana stems. The banana stem functions not only as a base but also as a wrapper. Apart from using dried banana stems, some also use sacks or plastic. The packing is usually done in the afternoon, evening or night.

Potential Hazards and Risks to Children

The repeated movements to pick up and pass on tobacco leaves to pack potentially gives children ergonomic hazards. Dust, tobacco leaves flakes, and the smell of tobacco leaves that are inhaled by children expose children to biological hazards. Packing that is done during school time has a risk of disrupting children's learning time. Likewise, if this activity is carried out outside school hours, there is a risk of reducing children's play time.

Potential Hazards and Risks during Packing Before Selling

Types of Hazards	Potential Hazards to Children	Risks
Chemical Hazards	The smell of tobacco leaves	Headache
Biological Hazards	Dust	Inhalation
	Tobacco leaves flakes	
Ergonomic Hazards	Lifting and transporting tobacco leaves	Back, arm, shoulder pain and disorders of the muscles, ligaments and tendons
	Heavy weight	
Psychosocial Hazards	Children are forced to work	Interfere with children's school time
		Reducing the children's playing time
		Stress

Conclusion

The activity of packing before sale should not be done by children for the following reasons:

1. Dried tobacco leaves make children experience headache.
2. The potential to interfere with children's school time and reduce children's play time.

5

Matrix Analysis
Hazardous Works for Children in Tobacco Farming

No	Activity	Potential Hazard	Potential Risk	Works Could (✓) or Should Not Be Done (✕) By:				
				Children Under the Age of 18 Years	Children Aged 15-17 Years		Children Aged 13-14 Years	
						Conditions		Conditions
I. LAND PREPARATION								
1.	Land Clearing	Sharp objects (hoe, sickle, and machete), exposure to sun, weed killer, wild animal bite (snake or insect), the sharp side of the grass, be in a squatting position for weeding, the scythe	Cut, dizziness, dehydration, skin irritation, poisoned, stung, itchy rash, back pain, arm, shoulder pain and muscle, ligament and tendon disorders, disrupting children's	✕				

		movement, heavy load, inconvenient use of equipment to use, children are forced to work	school time, reducing children's play time, stress					
2.	Burning Grass and the Crop Remnants	Exposure to sun, hot fire, sparks, fall into the fire, excessive inhalation of smoke, bitten by the insect(s), the sharp edges of grass and plant debris, standing too long, children are forced to work	Dizziness, dehydration, skin irritation, burned, harmed by the sparks, asphyxiated, respiratory tract irritation, irritation of the conjunctival membranes of the eyes, itchy rash, aches, disrupting children's school time, reducing children's play time, stress	✕				
3.	Land Ploughing	Exposure to sun, tractor engine vibration, get on the tractor engine when	Dizziness, dehydration, skin irritation, lower back pain, fall, hit	✕				

		the engine is off, play around the tractor engine while the engine is off or in use, bacteria in the soil, bacteria in the water, the sharp side of straw, children are forced to work	the engine, being grazed or hit or run over by a machine, itching, allergies, illness, disrupting children's school time, reducing children's play time, stress					
4.	Making Soil Mounds *(Guludan)*	Sharp objects (hoe, sickle, multiplier and machete), exposure to sun, tractor engine vibration, wild animal bite (snake or insect), be in a hunched position to hoe, movement of the hoe, children are forced to work	Cut, dizziness, dehydration, skin irritation, lower back pain, disorders of blood vessels and nerves, numbness in the affected area, stung, back and waist pain, arm, shoulder pain and injured muscles and ligaments in the child's body if done for a long time, disrupting children's school time,	✕				

			reducing children's play time, stress					
5.	Making Drainage	Sharp objects (hoe, sickle, and machete), exposure to sun, wild animal bite (snake or insect), be in a bending position to hoe, hoeing movements, children are forced to work	Cut, dizziness, dehydration skin irritation, stung, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress	✕				
II. NURSERY								
6.	Selecting Types of Seeds and Soaking Seeds	Sharp object (sickle), chemical liquids for growth enhancer, bacteria in the water, repetitive movements in a static position when selecting seeds,	Cut, poisoned, itching, allergies, illness, aches, muscle, ligament and tendon disorders, disrupting children's school time,	✕				

		children are forced to work	reducing children's play time, stress					
7.	Cultivating Soil for Beds	Sharp objects (hoe, sickle, machete), chemical fertilizers to increase soil fertility, bacteria in the soil, bacteria in the water, compost, long hoeing or shoveling positions (static work), children are forced to work	Cut, poisoning, itching, allergies, illness, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress	✗				
8.	Sowing Seeds	Bacteria in the water, bacteria in the soil, fine sand or dry ash, the weight of the water container (gembor) that is filled with water, lifting and carrying loads repeatedly, children are forced to work	Itching, allergies, illness, inhaled, muscle, ligament and tendon disorders, reducing children's play time		✓	• Wearing long sleeved clothes • Wash your hands after sowing the seeds. • The weight of the water container is not more than 12 kg for boys	✗	

						and 10 kg for girls. Children need to be given proper lifting exercises that are not with their back bent • No more than 3 hours / day and take a break every 15 minutes. • Not done during school hours • The child still has time to play		
9.	Covering Seed with Husks/Straw	The sharp side of the straw/husks, bitten by insects, children are forced to work	Itchy rash, disrupting children's school time, reducing children's play time, stress		✓	• Wearing long-sleeved clothes, hats, and footwear so as not to	✓	• Only done on family-owned tobacco fields

						be exposed to agricultural land. • No more than 3 hours/day and take a break every 15 minutes. • Not being done during the child's school hours. • Children still have time to play.		• Wearing long-sleeved clothes, hats, and footwear so as not to be exposed to soil. • No more than 3 hours/day and take a break every 15 minutes. • Not being done during the child's school hours. • Children still have time to play.
10.	Applying Pesticides	Pesticides, herbicides, Heavy loads, an uncomfortable position when applying pesticides,	Poisoning, back pain, arm pain dan bahu, disrupting children's school time, reducing	✕				

		children are forced to work	children's play time, stress					
11.	Watering Beds	Bacteria in the water, the weight of the watering can (*gembor)* that is filled with water, watering movements that is done repeatedly, children are forced to work	Itching, allergies, illness, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress		✓	• Wearing long sleeved clothes and using footwear. • Washing their hands after watering the beds. • The weight of the gembor filled with water is not more than 12 kilograms for boys and 10 kilograms for girls. Children are trained in advance on how to lift and carry	✓	• Only done on family-owned tobacco fields • Wearing long-sleeved clothes and using footwear. • Do not use a gembor when watering. • Washing their hands after watering the beds. • No more than 3 hours/day and take a break every 15 minutes. • Not being done during

						loads properly. • No more than 3 hours/day and take a break every 15 minutes. • Not being done during the children's school hours. • Children still have time to play.		the children's school hours. • Children still have time to play.
12.	Weeding Grass on Beds	Sharp objects (hoes, sickles, and machetes), exposure to sun, wild animal bites (snake or insect), the sharp side of the grass, bacteria in the soil, pesticides, herbicides, be in a squatting position for	Cut, dizziness, dehydration, skin irritation, stung, itchy rash, itching, allergies, illness, poisoning back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders,	✕				

		weeding, the morbid movements, inconvenient equipment to use, children are forced to work	disrupting children's school time, reducing children's play time, stress					
13.	Fertilization of the Beds	Bacteria in the soil, bacteria in the water, fertilizer, pesticides, herbicides, heavy loads, uncomfortable position when fertilizing or spraying, children are forced to work	Itching, allergies, illness, poisoning, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress	✕				
14.	Cutting Leaves	Sharp objects (scissors, sickles), pesticides, herbicides, bacteria in the soil, repetitive motion when cutting leaves, squatting position when cutting	Cut, injured, poisoning, itching, allergies, illness, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders,	✕				

		leaves, children are forced to work	disrupting children's school time, reducing children's play time, stress					
15.	Preparing Covers for Beds	Woods, children are forced to work	Injured, disrupting children's school time, reducing children's play time, stress		✓	• Wearing long sleeved clothes and footwear • Not involved in chopping wood • Not lifting weights that are not in accordance with the child's ability limits • No more than 3 hours / day and take a break every 15 minutes.	✓	• Only done on family-owned tobacco fields • Wearing long sleeved clothes and footwear • Not involved in cutting and sticking wood • Not lifting weights that are not in accordance with the child's ability limits • No more than 3 hours / day and take a

						• Not done during school hours • The child still has time to play		break every 15 minutes. • Not done during school hours • The child still has time to play
16.	Cover and Uncover the Beds Using Plastic Covers	Children are forced to work	Disrupting children's school time, stress		✓	• Not involved in the activity of uncovering the beds, which is done in the night • No more than 3 hours / day and take a break every 15 minutes. • Do not lift the lid that is more than 12 Kg	✓	• Only done on family-owned tobacco fields • Not involved in the activity of uncovering the beds, which is done in the night • No more than 3 hours / day and take a break every 15 minutes. • Do not lift the lid that is

						• Not done during school hours		more than 12 Kg • Not done during school hours
17.	Preparing Tray	Bacteria in the soil, bacteria in the water, children are forced to work	Itching, allergies, illness, disrupting children's school time, reducing children's play time, stress		✓	• Wearing long sleeved clothes and gloves • Use a mask to protect inhalation from dust and gloves • Wash hands after preparing the tray • Not done during school hours • The child still has time to play	✓	• Only done on family-owned tobacco fields • Wearing long sleeved clothes and gloves • Use a mask to protect inhalation from dust and gloves • Wash your hands after preparing the tray • Not done during school hours

								• The child still has time to play
18.	Preparing Planting Media for Tray	Sharp object (shovel), bacteria in the soil, bacteria in the water, fertilizer, be in a squatting or bent position, shoveling movements, children are forced to work	Injured, itching, allergies, illness, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress		✓	• Wearing long sleeved clothes and footwear • Use a mask to protect inhalation from dust and gloves • Wash hands after planting media to tray • No more than 3 hours / day and take a break every 15 minutes. • Not done during school hours	✓	• Only done on family-owned tobacco fields • Wearing long sleeved clothes and footwear • Use a mask to protect inhalation from dust and gloves • Not involved for shoveling • Wash hands after planting media to tray • No more than 3 hours / day and take a

						• The child still has time to play		break every 15 minutes. • Not done during school hours • The child still has time to play
19.	Transferring Seeds from the Nursery to Tray	Soil bacteria, Earthworms, Dangerous insects, Manure Pesticides, herbicides Repeated movements in moving the seeds to the tray Children are forced to work	Itching, allergies, illness, poisoning, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress	✕				
20.	Transferring Seeds to Polybags	Soil bacteria, earthworms, dangerous insects,	Itching, allergies, illness, poisoning, back pain, arm pain,	✕				

		manure, pesticides, herbicides, repetitive work by putting the soil into polybags, uncomfortable work position, children are forced to work	shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress					
21.	Removing Seeds	Bacteria in the soil, earthworms, dangerous insect, fertilizer (animal manures), pesticides, herbicides, repetitive work while pulling seeds, uncomfortable work positions, children are forced to work	Itching, allergies, illness, poisoning, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress	✕				
22.	Loading Seeds into Ready-to-Transport Containers	Bacteria in the soil, bacteria in the water, dangerous insects, manure, pesticides, herbicides, repetitive work in putting	Itching, allergies, illness, poisoning, back pain, arm pain, shoulder pain and muscle, ligament and tendon	✕				

		seeds, uncomfortable work positions, children are forced to work	disorders, disrupting children's school time, reducing children's play time, stress					
23.	Transporting Collected Seeds	Carrying seeds while riding a motorcycle, bacteria in the soil, fertilizers, pesticides, herbicides, carrying seeds by hand, uncomfortable work position, children are forced to work	Fell, itching, allergies, illness, poisoning, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, reducing children's play time, stress	✗				
III. **PLANTING**								
24.	Marking Points of Planting	Sharp objects (wood and hoe), exposure to sun, bacteria in the soil, manure, repetitive motion to perforate the soil for the planting process,	Injured, dizziness, dehydration, skin irritation, itching, allergies, illness, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders,		✓	• Wearing long sleeved clothes, hats, masks and footwear • Only use wood • Bring drinking water	✓	• Only done on family-owned tobacco fields • Wearing long sleeved clothes, hats, masks and footwear i

		children are forced to work	disrupting children's school time, reducing children's play time, stress			• No more than 3 hours / day and rest in the shade every 15 minutes. • Wash hands after marking the planting point • Not done during school hours • The child still has time to play		• Only engage in soil watering (do not use gembor) • Wearing long sleeves and a hat • Bring drinking water • No more than 3 hours / day and rest in the shade every 15 minutes • Wash hands after marking the planting point • Not done during school hours • The child still has time to play

25.	Watering Land	Bacteria in water, filled water container, repetitive watering, children are forced to work	Itching, allergies, illness, back pain, arm pain, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress		✓	• Wearing long sleeved clothes, hats and footwear • Wash your hands after watering the land • The weight of the water-filled bag is not more than 12 kg for boys and 10 kg for girls or only using buckets or hoses. • No more than 3 hours / day and rest in the shade every 15 minutes • Children are given an explanation	✓	• Only done on family owned tobacco fields • Wearing long sleeved clothes, hats and footwear • Wash your hands after watering the land • Just use the hose • No more than 3 hours / day and rest in the shade every 15 minutes • Children are given an explanation of how to lift and carry

						of how to lift and carry loads properly • Not done during school hours • The child still has time to play		loads properly • Not done during school hours • The child still has time to play
26.	Planting,	Pesticides, herbicides, insect, soil bacteria, water bacteria, manure, repetitive motions when plating, uncomfortable work positions, children are forced to work	Poisoning, bitten by insect itchiness, allergies, diseases, back pain, arm pain, shoulder and muscle pain, ligament and tendon pains, disrupting children's school time, reducing children's play time, stress	✕				
27.	Plant Fertilization	Pesticides, herbicides, heavy load, uncomfortable	Poisoning, back pain, arm, shoulder and muscle pain,	✕				

		positions when fertilizing and spraying, children are forced to work	ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress					
28.	Watering with Watering Container *(Gembor)*	Water bacteria, weight of water-filled watering container, repetitive watering movements, children are forced to work	Itchiness, allergies, diseases, back pain, arm pain, shoulder and muscle pain, ligament and tendon disorders, disrupting children's school time, reducing children' play time, stress		✓	• Wearing long sleeved clothes and footwear • Wash hands after watering • The weight of the water is not more than 12 kg for boys and 10 kg for girls. • Children are given an explanation of how to lift weights and	✖	

						carry weights properly • Not more than 3 hours / day and rest every 15 minutes • Not done during school hours • Children still have time to play		
29.	Watering Plants Using the Sheet Pile *(Turap)* System	Sharp object (hoe), water bacteria, air bacteria, manure, wild animal and insect bites (snake or bugs), repetitive hoeing to discharge water, children are forced to work	Injury, itchiness, allergies, diseases, poisoning, bitten, itchiness, back pain, arm, shoulder pain and muscle, ligament and tendon disorders, disrupting children's school time, reducing children's play time, stress	✖				

IV. **CARE**								
30.	Soil Loosening	Sharp object (hoe), pesticide, herbicide, fresh tobacco leaves, insect bites, repetitive movement of ploughing the soil, uncomfortable working position, children are forced to work	Injury, poisoning, Green Tobacco Sickness (GTS), itchiness, allergies, back pain, arm, shoulder pain and muscle, ligament and tendon disorders, interfere with children's school time, reducing the children's playing time, stress	✖				
31.	Cleaning Weeds/Weeding in the Field/Killing Caterpillars	Sharp object (hoe, sickle), pesticide, herbicide, fresh tobacco leaves, caterpillar, insect bites, repetitive movement during cleaning weeds/weeding in the field/killing	Cuts, injury, poisoning, Green Tobacco Sickness (GTS), itchiness, allergies, diseases, back pain, arm, shoulder pain and muscle, ligament and tendon disorders, interfere	✖				

		caterpillars, uncomfortable working position, children are forced to work	with children's school time, reducing the children's playing time, stress					
32.	Applying Pesticides	Pesticide, herbicide, fresh tobacco leaves, heavy weight, uncomfortable position while giving pesticides, children are forced to work	Poisoning, Green Tobacco Sickness (GTS), back pain, arm, shoulder pain and muscle, ligament and tendon disorders, interfere with children's school time, reducing the children's playing time, stress	✖				
33.	Pruning Leaf Shoots	Sharp objects (knife, pruning shears), pesticide, herbicide, fresh tobacco leaves, soil bacteria, repetitive movement during leaf/leaf shoot pruning,	Cuts, injury, poisoning, Green Tobacco Sickness (GTS), itch, allergy, illness, back pain, arm, shoulder pain and muscle, ligament and	✖				

		uncomfortable position while pruning leaf/leaf shoot, children are forced to work	tendon disorders, interfere with children's school time, reducing the children's playing time, stress					
34.	Removing Leaf Buds	Sharp objects (knife, sickles, pruning shears), pesticide, herbicide, fresh tobacco leaves, soil bacteria, repetitive movements when removing leaf buds, uncomfortable position while removing leaf buds, children are forced to work	Cuts, injury, poisoning, Green Tobacco Sickness (GTS), itchiness, allergies, diseases, back pain, arm, shoulder pain and muscle, ligament and tendon disorders, interfere with children's school time, reducing the children's playing time, stress	✖				
35.	Raising Mounds *(Guludan)*	Sharp objects (hoe), pesticide, herbicide, fresh tobacco leaves, insect bite, soil	Injury, poisoning, headaches, Green Tobacco Sickness (GTS), itchiness,	✖				

		bacteria, repetitive movements during raising the mounds, uncomfortable working position, children are forced to work	allergies, diseases, back pain, arm, shoulder pain and muscle, ligament and tendon disorders, interfere with children's school time, reducing the children's playing time, stress					
36.	Administering Shoot Growth Inhibitor	Pesticide, herbicide, fresh tobacco leaves, soil bacteria, repetitive movements of administering shoot growth inhibitor, uncomfortable position while administering shoot growth inhibitor, children are forced to work	Poisoning, headaches, Green Tobacco Sickness (GTS), itchiness, allergies, diseases, back pain, arm, shoulder pain and muscle, ligament and tendon disorders, interfere with children's school time, reducing the	✖				

			children's playing time, stress					
37.	Fertilization	Water bacteria, Soil bacteria, Manure, Pesticide, herbicide, Fresh tobacco leaves, Heavy leaves, Uncomfortable position during fertilization, Children are forced to work	Itchiness, allergies, diseases, poisoning, headaches, Green Tobacco Sickness (GTS), back pain, arm, shoulder pain and muscle, ligament and tendon disorders, interfere with children's school time, reducing the children's playing time, stress	✖				
V. **HARVEST**								
38.	Tobacco Stalk Cutting	Sharp objects (sickles), soil bacteria, insect bites, fresh tobacco leaves, repetitive movements of cutting tobacco stalks, uncomfortable	Cuts, injury, itchiness, allergies, diseases, Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments	✖				

		position while cutting tobacco stalks, children are forced to work	and tendons, interfere with children's school time, reducing the children's playing time, stress					
39.	Picking Tobacco Leaves	Exposure to hot sun, fresh tobacco leaves, soil bacteria, insect bites, repetitive movements of picking tobacco leaves, uncomfortable working position, children are forced to work, long period of working	Headaches, dehydration, skin irritation, Green Tobacco Sickness (GTS), itchiness, allergies, diseases, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, disrupting children's school hours, reducing children's play time, fatigue, stress.	✖				
40.	Collecting Tobacco Leaves	Exposure to hot sun, fresh tobacco leaves, soil bacteria, insect bites, lifting and	Headaches, dehydration, skin irritation, Green Tobacco Sickness	✖				

		transporting crops, uncomfortable working position, children are forced to work, long period of working	(GTS), itchiness, allergies, diseases, back pain, arm, shoulder pain and muscle and joint disorders, disrupting children's school hours, reducing children's play time, fatigue, stress					
41.	Packing Tobacco Leaves	Exposure to hot sun, fresh tobacco leaves, soil bacteria, insect bites, repetitive movement during packing tobacco leaves, uncomfortable working position, children are forced to work, long period of working	Headaches, dehydration, skin irritation, Green Tobacco Sickness (GTS). itchiness, allergies, diseases, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, disrupting children's school hours, reducing	✖				

			children's play time, fatigue, stress					
42.	Transporting Tobacco Leaves (from Field to Farmers' House/Warehouse)	Working with and ride a transport vehicle, fresh tobacco leaves, insect bites, lifting, transporting and lowering the crops from vehicle, children are forced to work	Falling, run over by a car, Green Tobacco Sickness (GTS), itchiness, allergies, diseases, back pain, arm, shoulder pain and muscle and joint disorders, interfere with children's school time, reducing the children's playing time, stress	✖				
VI. **POST-HARVEST**								
43.	Preparing/Cleaning Pipes in the Oven	Sharp objects (nails, wood, saw, machete), installing racks in the oven to a certain height, dust, tobacco leaf flakes, soot, cleaning movement at the top of the	Injury, cuts, falling, inhalation, health problems, back pain, arm and shoulder pain, interfere with children's school time, reducing the	✖				

		oven, children are forced to work	children's playing time, stress					
44.	Chopping, Preparing, or Arranging Firewood	Sharp objects (axe, saw), saw vibration, sawdust, dust from corncob and pecan shells, repetitive movements of using an axe and saw, the weight of lifting saw, children are forced to work	Wounded, cuts, bone, joint, and muscle disorders, inhalation, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
45.	Putting Firewood into the Oven	Fire heat, fire sparks, falling into the fire, inhaling excessive smoke, the weight of lifting firewood, children are forced to work	Burn, dehydration, vital organs disorder like kidney, asphyxiation, respiratory system irritation, irritation of the conjunctiva, back, arm, shoulder pain and disorders of the muscles,	✖				

			ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress					
46.	Arranging Tobacco Leaves	Fresh tobacco leaves, repetitive movement of arranging leaves, sitting position in long period of time, children are forced to work	Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
47.	Removing Bone from Leaves	Fresh tobacco leaves, Repetitive movement of removing bone from leaves, sitting position in long period of time,	Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and	✖				

		Children are forced to work	tendons, interfere with children's school time, reducing the children's playing time, stress					
48.	Rolling Tobacco Leaves	Fresh tobacco leaves, repetitive movement of rolling tobacco leaves, sitting position in long period of time, children are forced to work	Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
49.	Arranging Tobacco Leaf Rolls	Fresh tobacco leaves, Repetitive movement of arranging tobacco leaves, Children are forced to work	Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere	✖				

			with children's school time, reducing the children's playing time, stress					
50.	Cutting Tobacco Leaves	Sharp objects (knife, cutting machine), fresh tobacco leaves, repetitive movement of cutting tobacco leaves, children are forced to work	Graze, cut, Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
51.	Drying *(Ngeler)* Tobacco Leaves	*Widig*'s sharp side, burning sun, Fresh tobacco leaves, Repetitive movement of drying *(ngeler)* tobacco leaves, Lifting and flipping	Cuts, headache, dehydration, skin irritation, Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments	✖				

		widig, Children are forced to work	and tendons, interfere with children's school time, reducing the children's playing time, stress					
52.	Folding Dried Tobacco Leaves	The smell of tobacco leaves, dust, dried tobacco flakes, repetitive movement of folding dried tobacco leaves, sitting position in long period of time, children are forced to work	Headache, inhalation, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✕				
53.	Piercing *(Menyujen)*	Sharp objects (bamboo slats, needle, stick), fresh tobacco leaves, repetitive movement of piercing, sitting position in long period of time,	Punctured, cut, Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere	✕				

		children are forced to work	with children's school time, reducing the children's playing time, stress					
54.	Tying Tobacco Leaves	Fresh tobacco leaves, repetitive movement of tying tobacco leaves, sitting position in long period of time, children are forced to work	Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
55.	Hanging Tobacco Leaves (Curing)	Fresh tobacco leaves, repetitive movement of hanging tobacco leaves, children are forced to work	Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's	✖				

			school time, reducing the children's playing time, stress					
56.	Packing Dried Tobacco Leaves	The smell of dried tobacco leaves, Dust, Dried tobacco flakes, Repetitive movement during packing, Children are forced to work	Headache, inhalation, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
57.	Putting and Arranging Tobacco Leaves into the Oven	Arranging tobacco leaves at certain height, fresh tobacco leaves, repetitive movement of lifting and transporting, children are forced to work	Falling, Green Tobacco Sickness (GTS), back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the	✖				

			children's playing time, stress					
58.	Controlling Oven's Temperature	Fire heat, heat, falling into the fire, repetitive movements of lifting and transporting firewood, children are forced to work	Burn, dehydration, and concentration disorders, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
59.	Removing Tobacco Leaves from the Oven	Taking tobacco leaves from height, the smell of tobacco leaves, dust, tobacco leaves flakes, lifting and transporting leaves out, children are forced to work	Falling, headache, inhalation problem, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the	✖				

			children's playing time, stress					
60.	Untying Tobacco Leaves	Bamboo to tie dried tobacco leaves, the smell of tobacco leaves, dust, tobacco leaves flakes, repetitive movement to untie the leaves, uncomfortable working position, prolonged sitting position, children are forced to work	Cuts, punctures, headache, inhalation problem, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
61.	Stacking Tobacco Leaves	The smell of tobacco leaves, dust, tobacco leaves flakes, repetitive movements of lifting, transporting, and stacking tobacco leaves, uncomfortable working position,	Headache, inhalation problem, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the	✖				

		prolonged sitting position, children are forced to work	children's playing time, stress					
62.	Sorting Tobacco Leaves	The smell of tobacco leaves, dust, tobacco leaves flakes, repetitive movement while sorting, uncomfortable working position, prolonged sitting position, children are forced to work	Headache, inhalation, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				
63.	Transporting Tobacco Leaves to Storage	The smell of tobacco leaves, Dust, Tobacco leaves flakes, Repetitive movement while transporting, Heavy weight, Children are forced to work	Headache, inhalation, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				

64.	Arranging Tobacco Leaves in Storage	Arranging a high pile of harvests, The smell of tobacco leaves, Dust, Tobacco leaves flakes, Lifting and transporting tobacco leaves, Heavy weight, Children are forced to work	Falling, headache, inhalation problem, back, arm, shoulder pain, interfere with children's school time, reducing the children's playing time, stress	✖				
65.	Packing Before Selling	The smell of tobacco leaves, Dust, Tobacco leaves flakes, Lifting and transporting tobacco leaves, Heavy weight, Children are forced to work	Headache, inhalation problem, back, arm, shoulder pain and disorders of the muscles, ligaments and tendons, interfere with children's school time, reducing the children's playing time, stress	✖				

6

Use of the List of Hazardous Works for Children in the Tobacco Farming Sector

The assessment of hazards and risks of the works in tobacco farming for children resulted in a list of works in the tobacco sector that is completed with indications whether or not children can be involved in a particular work. The list can be used as a learning resource in facilitating learning for farmers, farmers' families, and other stakeholders involved in tobacco farming such as farmer groups or farmer group associations, the Child Friendly Village Task Force, Children's Forum, and village government in the preventing child labour in the tobacco farming.

Some suggestions on the use of the list below can be carried out depending on the local context .

Parents/Families

1. Use this list as important information so as not to employ children in tobacco farming, whether it is their own, neighbours' or others' farms.
2. Raise awareness of neighbours and relatives about the prohibition of child labour in the tobacco farming.

Farmers:

1. Use the list to guide in not involving children in tobacco farming, whether owned by themselves, neighbours, or others.
2. Ensure that agricultural tools and material are out of children's reach.
3. Strive for the improvement of a healthy environment for children, such as a place for tobacco processing or storing.

Farmer Groups or Farmer Groups Association:

1. Discuss the list of hazardous works for children in the tobacco farming sector with members.
2. Discuss steps in the planning process to exclude children from the whole tobacco farming process.
3. Cooperate with and assist leaf technician to ensure no children are involved in the whole tobacco farming process.

Child Friendly Village Task Force

1. Study the list of hazardous works for children in the tobacco farming sector.
2. Coordinate with the village government and the Children's Forum to plan socialization of the list of hazardous works for children in the tobacco farming sector to parents and the community members.
3. Hold meetings with principals or teachers whose schools are in the village to disseminate the list of hazardous works for children in the tobacco farming.
4. Help school principals and teachers to be able to present a list of hazardous works for children in the tobacco farming sector to their students in an attractive manner and media.
5. Hold meetings with religious leaders, community leaders, women leaders, and youth leaders to disseminate the list of hazardous works for children in the tobacco farming sector.
6. Assist religious leaders, community leaders, women leaders, and youth leaders in disseminating the list of hazardous works for children in the tobacco farming sector to the community.
7. Cooperate with farmer groups or farmer groups association and leaf technician to disseminate the list of hazardous works for children in the tobacco farming sector to farmers and farmer families.

Children's Forum/Children's Group/Children's organisation

1. Study the list of hazardous works for children in the tobacco farming sector.
2. Coordinate with village government and the Child Friendly Village Task Force to disseminate the list of hazardous works for children in the tobacco farming sector to children.

3. Conduct meetings to discuss the list of hazardous works for children in the tobacco farming sector with children groups in the village.
4. Develop the list of hazardous works for children in the tobacco farming sector information into an attractive media.

Agency or Body that Has Duties, Main and Function of Child Protection and Child labour Affairs

1. Disseminate the list to officials in their respective agencies.
2. Use this list as a learning for children's service centers administrators.
3. Use this list as a material for outreach cadres of organization in the respective agencies, such as integrated community-based child protection (PATBM), Social Worker Dedicating Unit (Sakti Peksos), Village Facilitators, Children's Forum, District Social Welfare Workers (TKSK), and others.
4. Use this list as a material for developing campaign for child protection and combating child labour.

Community organization

1. Disseminate the information contained in this list to members.
2. Use this list as a material for developing campaign for child protection and combating child labour.
3. Use this list as a material to encourage the establishment of policies on child protection and combating child labour.
4. Participate in monitoring the situation of children and the presence of child labour.

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