

Social topics

Discovery learning exercise 27: An introduction to child labour issues

Farmers need to understand why and how working in the agricultural sector can be hazardous and risky for both adults and children. Learning how children can be unwillingly put at risks in cocoa farms, and in agriculture in general, will help farmers identify hazardous activities from which children should be excluded, and use alternatives to child labour available in their communities.

Learning objectives

- To identify hazards and risks in cocoa farms which are detrimental to children's health and safety
- To sensitize participants to the causes and consequences of child labour (economic, physiological, physical, psychological, social, emotional) on children, families, communities and countries
- To identify alternatives to child labour

Note: this exercise can be done separately or as part of the cropping calendar exercise.

Materials

- A flip chart board and paper
- Markers

Procedure

Ask participants if they have ever had or heard of any accidents or are aware of the risks involved in growing cocoa. Select two or three to tell their stories. Note the answers on flipcharts.

Ask the group to list all the activities involved in growing cocoa.

Divide the participants into small groups. Have each group work on 2-3 activities and provide the following information for those activities:

- Person or group involved
- Tools or materials used
- Whether the activity is hazardous (dangerous) or not
- Why the activity is hazardous and who is the most vulnerable person/group
- Identify alternatives or what can be done to reduce the danger

Activities	Persons or groups involved	Tools or materials used	Hazardous or not hazardous? Why hazardous?	Most vulnerable group	Alternatives

Have each group present their results to the whole school. If the exercise is properly facilitated children should come out as the most endangered group. Discuss possible hazards to children doing the listed activities, including physical, emotional and even psychological hazards.

Introduce the concept of child labour, its causes and consequences by mentioning the following:

- Difference between light/casual work done by children as part of training them for life (socialization) and child labour.
- Because of accidents, compensation rates can be higher if children are employed, and how productivity can be affected by relying on children.
- Child labour is not allowed by international and national laws
- Cocoa producers may find it difficult to market their produce due to the global cocoa initiative against child labour
- Our aim is clean, good quality cocoa free of child labour.
- If anyone hears of or sees a situation involving child labour, report it to the proper authorities.

Guide questions for discussion

1. Why do some people use their children to work on cocoa farms?
2. Do you know of cases of children working on cocoa farms? What are the effects on the children?
3. What can be done to avoid children working on cocoa farms?

Version: October 2004

Discovery learning exercise 28: Children carrying heavy loads in cocoa production

Carrying loads is a normal part of life in rural Africa. Farmers may not be aware that when children carry heavy loads, they run the risk of damaging their still growing bodies. The purpose of this protocol is to sensitize farmers on the potential dangers of having children carry heavy loads and to help them find alternative means of transportation.

Learning objectives

- To sensitize participants to the negative effects on children of carrying heavy loads
- To develop appropriate ways for farmers to identify weights that children below 15 can safely carry
- To explore alternatives to reduce or eliminate load carrying by children

Materials

- Flip chart paper
- Markers
- Objects of different weights (2, 5, 10 kg)
- Case study

Procedure

Read the case study presented below (several times if necessary) ensuring that all the participants understand. Participants can also be asked to recite the story.

Case study

There was a cocoa farmer named Chief Adeniyi who had an 8-year-old son named Kolawole. One day Chief Adeniyi, accompanied by his son, went to his cocoa farm to harvest the cocoa. After harvesting and breaking the pods, Chief Adeniyi loaded cocoa beans into two bags of 50 kg each. Chief Adeniyi carried one of the bags and gave the second bag to Kolawole. Although the cocoa was too heavy for Kolawole, he did not complain since his father, a chief, was carrying another bag. He also felt he should obey his father out of respect. Kalawole didn't complain as he struggled with the heavy load. Some time after this incident, Kolawole's neck began to ache. Still he did not complain and he continued to help his father carry heavy loads of cocoa beans. After some time, one day while carrying a load, Kalawole collapsed. Chief Adeniyi quickly chipped

his load, picked the boy up and rushed him to the clinic. . The doctor examined Kolawole and found that he had a sustained spinal injury. Thereafter, Kolawole could not walk and has been using crutches ever since. Kolawole is 20 years old today and still walks with crutches.

Use the guide questions to discuss the case study, the issue of children carrying heavy loads and what can be done about it.

Present the different weights. Introduce the subject of light work done by children and child labour to show that load carrying by children moves from light work to child labour when the weight of the load is too much for the child.

Guide questions for discussion

1. What was the role of the father in the case study?
2. What was the experience of the child in the case study?
3. Do you know of similar experiences?
4. What do you think can be done to prevent such occurrences?
5. What lessons have you learnt from this story?
6. At what age should children be involved in carrying loads? Why?
7. What is the maximum weight of load for a child of under 12 or over 15 to carry?
8. What kind of things should children be allowed to carry?
9. What arrangements can be made to avoid children carrying heavy loads?

Version: June 2004

Discovery learning exercise 29: The use of pesticides and chemicals by children on cocoa farms

Farmers often consider pesticides (cide means to kill) as 'medicine' for plants, not understanding that pesticides can be dangerous for their health and well-being. The aim of this protocol is teach farmers that, while very effective in controlling pests, pesticides are poisonous and dangerous to humans. Understanding this basic fact will help farmers protect themselves and appreciate why children should not be involved in pesticide application, or even nearby when pesticides are being used.

Learning objectives

- To sensitize participants to the dangers of involving children in the mixing, loading and application of pesticides and the handling and maintenance of application machinery
- To explain the consequences of pesticide and chemical applications on children's health and safety
- To discuss appropriate protective measures for farmers and children

Materials

- Flip chart paper
- Markers
- Case study

Procedure

Ask participants to describe how they use, apply and store pesticides (materials used, type of products, frequency). For each activity, ask who is involved, noting the specific activities done by children and their specific ages. List all answers on the flip chart.

Read the case study presented below (several times if necessary) ensuring that all the participants understand. Participants can also be asked to recite the story.

Case study

Moussa has a cocoa farm. He has two children: 8 year old Wandja and 15 year old Seydou. After school, the two children usually helped their father to spray

pesticides in the cocoa farm. One day, while mixing and spraying pesticides, a few drops of the product splashed into the eyes of the two boys.

At the age of 12, Wandja began having difficulties reading on the blackboard. The doctor detected that he had eye problems and was gradually losing his sight. Wandja had to abandon school and remain at home.

After graduating from university at the age of 24, Seydou decided to sit for the police entrance examination in order to become an assistant superintendent of police. He passed the written exam, but during the medical test the doctor detected that he had an eye problem. This problem was traced back to exposure to pesticides. Seydou therefore could not be admitted into the police school. He therefore returned to the village and shared his misfortune with members of his family and community.

Using the guide questions, facilitate a discussion on the case study and generally on pesticide use by children.

Guide questions for a discussion

1. What can you say about the case study and the role played by each actor?
2. What lessons can you draw from this case study?
3. How do pesticides penetrate the body?
4. Why are children more vulnerable to risks in pesticide application?
5. What safety measures can be used during application and cleaning of spray equipment to reduce the negative effects of pesticides?
6. What comparison can you make between what happened in the case study with your own practices?
7. What other arrangements can be made to avoid children applying pesticides or cleaning spray equipment?

Version: October 2004

Discovery learning exercise 30: The use of sharp farm tools by children in cocoa cropping activities

Rural people consider the use of the machete and other sharp farm tools as a part of their everyday lives, using them for many different purposes. However, sharp tools used in cocoa production are potentially dangerous when used by children.

Learning objectives

- To identify the risks and dangers associated with the use of sharp tools by children in cocoa production
- To explore alternatives to the use of sharp farm tools by children

Materials

- Flip chart paper
- Markers
- Case study

Procedure

Read the case study presented below (several times if necessary) ensuring that all the participants understand. Participants can also be asked to recite the story.

Case Study

Adjobi is the 9 year old son of Assielou, a cocoa farmer. He has used machetes since the age of 6 to weed and clear land. Assielou, confident of his son's apparent ability to use the tool well, asks Abjobi to help him break cocoa pods. While working, Adjobi hurts himself ; the machete cuts two veins in his hand and he loses a lot of blood. Adjobi can no longer normally use that hand.

Facilitate a discussion using the guide questions.

Guide questions for discussion

1. What comment can you make about this case study?
1. What do you think of the role of the father, Assielou, in this case study?
2. What do you think about what happened to Adjobi?
3. What lessons did you learn from this case study?
4. For which other tasks do children use sharp tools in cocoa production?
5. What other less dangerous tools can be used by children in breaking cocoa pods and doing other tasks in cocoa production?

Version: November 2004

Discovery learning exercise 31: Raising awareness about HIV/AIDS

HIV/AIDS is affecting high numbers of rural Africans. The disease is having a major effect on agriculture generally and could negatively affect cocoa production in future. It is everyone's responsibility to make sure that farmers are informed about this deadly disease and know how to protect themselves against it.

Learning objective

To raise awareness of the HIV/AIDS disease and how it affects cocoa production today and in future.

Materials

- Flip chart paper
- Markers
- Case study

Procedure

Read the case study presented below (several times if necessary) ensuring that all the participants understand. Participants can also be asked to recite the story.

Case study

Ngozo, a 45 year old cocoa farmer, lives with his wife, Binta, aged 30, and 3 children ranging in age from 14-6. His village is on the highway leading to the capital city and is an important stop for trucks transporting goods between the capital and other parts of the country. Due to the high number of truck drivers who stop in the village, there are many prostitutes. Ngozo learns from conversations with friends in drinking spots that there is a new disease in his village called AIDS that kills people. There are many rumours in the village about the disease. Some say you can get it by being bitten by mosquitoes, other say you get it from sharing a glass or food with someone who has the disease, while other say that you can tell just by looking at someone whether or not they have the disease. Most people in the village think that AIDS is caused by witchcraft.

In 2001, Binta goes to spend 6 months in her village to look after her sick mother. While she is away, Ngozo gets very lonely and befriends a young woman from the village named Mary. After some time, Ngozo begins to sleep with Mary, which goes on until Binta comes back home. Life continues as usual for a few years. In 2003, Ngozo starts to suffer from strange illnesses such as skin rashes and mouth sores. Local doctors are unable to treat this illness. At the same time,

Binta announces that she is pregnant. Ngozo, very worried by this time, goes to the nearest large town to seek medical attention. At the hospital, he is told that he has AIDS. Ngozo is shocked. He returns home and reluctantly tells his wife of this trouble. Ngozo becomes more and more weak until he is unable to cultivate his cocoa farm. He finds out that his friend Mary also has AIDS. Binta delivers the baby but notices that the baby is not well. When she goes to the hospital, she is told that the baby has AIDS. Binta also tests positive for the disease although she has no symptoms. She returns home and spends all of her time looking after her sick husband and baby and struggling to scrape enough money together to feed the family. The cocoa farm is abandoned due to lack of labour. Eventually, Ngozo dies at the age of 49.

Facilitate a discussion on the case study using the guide questions. At the end of the session, provide information to participants on where to get more information locally about HIV/AIDS.

Guide questions for discussion

1. Have you heard of HIV or AIDS? What is the local name?
2. What is HIV? What is AIDS? What is the difference between HIV and AIDS?
3. How do you get AIDS?
4. How do you think Ngozo got HIV/AIDS? (Brainstorm and list ideas)
5. How can people protect themselves against HIV/AIDS? Are condoms available in this village?
6. What are the symptoms of AIDS?
7. If someone gets AIDS, what should they do?
8. How should we act toward a person who has AIDS?
9. Could Ngozo have lived longer with the disease? How?
10. According to the story, what consequence does HIV/AIDS have for our families, children and our community?
11. What can we do as a community to fight against this disease?

Version: February 2004

Discovery learning exercise 32: HIV/AIDS risk map

HIV/AIDS is affecting high numbers of rural Africans. The disease is having a major effect on agriculture generally and could negatively affect cocoa production in future. Mapping areas of a village that are favourable to non-protected sex and other high-risk behaviour is an effective way to raise awareness about the disease and help prevent it.

Learning objectives

- To sensitize participants on high-risk behaviour and practices that encourage the transmission of HIV/AIDS and other sexually transmitted diseases
- Develop an action plan to stop the spread of HIV/AIDS that can be presented to local authorities or development agents for implementation by the wider community

NOTE: This protocol should be used together with the HIV/AIDS case study protocol.

Materials

- Flip chart paper
- Markers

Procedure

Before the start of the exercise there should be a discussion of the causes of HIV/AIDS and the kinds of behaviour that leads to contamination by HIV, using for example the protocol "Raising awareness about HIV/AIDS". Explain that the purpose of the exercise is to identify areas of participants' village(s) where the kinds of behaviour that lead to people contracting the disease take place.

If possible, divide participants by age and/or sex so that there are at least two groups. Ask each group to draw a map of their village. This map should show public places of importance. If participants come from a number of villages, you may divide them into sex/age groups or have people from several villages form a group. Where group members come from several villages, they can agree to draw one village that most people know or draw a typical village of the area.

Using the guide questions, have participants discuss and list places and occasions that are favourable to the spread of HIV/AIDS through non-protected sexual relations, as well as cultural practices such as scarification, circumcision

and excision. Participants should draw these locations on the map and indicate the specific behaviour or practice associated with each location.

In groups, discuss constraints to changing high-risk behaviour. Ask participants to propose solutions and identify the kinds of support that will be necessary for these solutions to work.

Have each group present their map to the wider group and work out an action plan with a calendar.

One or more participants should be asked to take the responsibility of presenting the action plan to local leaders and/or local programs working on HIV/AIDS.

Guide questions for discussion

1. How is HIV transmitted?
2. Which behaviours and practices encourage the spread of HIV?
3. Where in our villages do these behaviours and practices responsible for spreading HIV take place?
4. What needs to be done to reduce risky behaviours?
5. Who should be involved in efforts to reduce high-risk behaviour?
6. How can we develop a plan to reduce the spread of HIV/AIDS in our area?

Version: February 2004

Group dynamic and energizer exercises

Discovery learning exercise 33: Water brigade

Learning objective

To demonstrate the importance of cooperation

Duration

45 minutes, including the discussion

Materials

- Two pails
- Two large plastic buckets
- Water

Procedure

Divide the participants into two groups of equal sizes. Line up the members of each group away from one pail, located in between the two groups.

Game 1

Fill the pail located in the centre of the two groups with 6 litres of water.

Announce the following instruction to the two groups:

“You have to use your hands to pass the water from one person to the other. The last person pours the water into the bucket of his/her team. Everybody has to remain where he/she stands, and has to hand over the water only to the person standing right beside him/her. The team with the most water in the bucket at the end of this activity wins”.

Start the game and watch to make sure that nobody cheats. There is no time limit, so let the teams pass water on through the brigades until the central pail is empty.

Measure the water in the three buckets to determine which team is the winner. The team with the most water in its bucket is the winner.

Note: Usually, teams spill a lot of water while competing for the common resource (water in the central pail). Show this to all of the participants.

Game 2

Maintain the same teams. This time, give each team its own pail containing 3 litres of water. Once again, announce the following instruction:

“You have to use your hands to pass the water from one person to the other. The last person pours the water into the bucket of his/her team. Everybody has to remain where he/she stands, and has to hand over the water only to the person standing right beside him/her. The team with the most water in the bucket at the end of this activity wins”.

Once again, start the game and check that nobody cheats. After both teams have finished taking all the water from the pails placed in the centre and passed it from one person to the next into their bucket, measure the water in the receiving bucket of each of the teams and announce the winner.

Show the difference in the amount of water in the buckets from the two games. Ask participants to identify the difference between the first and the second game.

Debriefing questions

1. Why is the amount of water in the buckets from the second game more than that from the first game?
2. What was the time difference between the first game and the second game?
3. Were there any time limitations in the first and second games?
4. Why did everybody rush during the first game but perhaps did so less during the second game?
5. Why did the winning team win? Did they organize themselves prior to the second game or did they have a better team spirit and cooperated better? Was there a gender balance, if not, what gender were the members of the winning team? Why?
6. Does the game teach us something about how natural resources, such as how rainforests close to cocoa growing areas could be preserved?
7. Does this game teach us something about cooperation and how cocoa farmers can help one another?

Version: June 2004

Discovery learning exercise 34: Differences in perceptions: the story of Serwa

Non-formal adult education is faced with the problem that people differ widely in the way they perceive and process information. This is due to differences in age, gender, religion and ethnicity and to the uniqueness of every individual. In conducting farmer field schools, it is important that facilitators and participants recognize these differences and their implications for learning.

Learning objective

To develop an appreciation for the differences in the way information is perceived and implications for learning about complex topics such ICPM

Materials

- Flip chart paper
- Markers
- Story
- Paper

Procedure

Ask for seven volunteers to read aloud the seven paragraphs of the following story of Serwa.

The Story of Serwa

Once there was a young woman called Serwa. Serwa was only 19 years old and was very beautiful. She was also very poor. She lived in a village on the bank of a big river. Serwa was engaged to be married to a young man called Mensah who lived in another village on the opposite side of the river. The river was wide and fast flowing and contained many crocodiles.

One day Serwa heard that Mensah was very ill and might even die. She became very anxious. Serwa loved Mensah very much and wanted to be with him because he was sick and might die.

So she went down to the river where there was a ferryboat. A man called Yaro rowed the ferryboat. When Serwa told him that she wanted to cross the river, Yaro asked her to pay ₺500. Serwa said that she did not have ₺500 at that time but she would pay him later. Yaro refused. Then Serwa pleaded with him to take her because Mensah, her fiancée, was very ill and might die. Yaro again refused. Yaro later agreed to take Serwa across the river only on one condition: that she sleep with him first.

Serwa was very upset about this and went back to her village wondering what to do. On the way home she met her cousin, Baba, to whom she narrated the story. "That's nothing to do with me" he replied her. "That is your own problem. Do not involve me in it. I do not want to have anything to do with it" Then Baba went off leaving Serwa confused.

Serwa did not know what to do. She hated the idea of sleeping with Yaro, but she loved Mensah so much and thought that she might never see him again if he was to die of his illness. She had to get across the river somehow to see Mensah. So finally she went back to Yaro and slept with him. He then took her across the river and she rushed to Mensah's house.

At Mensah's house, Serwa nursed him and looked after him. Soon Mensah felt better and was out of danger of dying. After some time Mensah asked Serwa how she crossed the river and where she got the money to pay the ferryman. Serwa then confessed to Mensah what had taken place between her and Yaro. Mensah was furious. He shouted at Serwa and insulted her calling her rude names for having slept with Yaro. He told her that he would never marry her and that she should get out of his house forever.

Serwa went sadly away, down to the ferry again. On the way she met a neighbour called Nana. She narrated everything that had happened to Nana who was very angered at what he heard. He immediately rushed to Mensah's house, dragged him from his sick bed and beat him up very badly.

End of story

After reading the story, list the five characters of the story on a flip chart and ask all participants to rank the characters in terms of their moral character, from best to worst, on a piece of paper. Collect five of the rankings and write them on the flip chart.

Debriefing questions

1. What do we notice about the rankings? (Emphasize that there is no right answer)
2. What explains the differences in ranking?
3. What lessons have you learned from this exercise?
4. Based on the lessons learned, what are the implications for important discussions where there is a right answer?

Version: October 2003

Discovery learning exercise 35: Collector's items

Learning objective

To raise awareness about the importance of planning, collaboration and creativity when doing a collective assignment

Materials

Small pieces of paper with lists of the items to be collected (see below)

Duration

20-25 minutes

Procedure

Divide participants into small groups with an equal number of members (preferably 5-6 per group). The groups will compete to collect a list of items, some of which may be difficult or impossible to find. A list may contain the following, for example:

- A cocoa pod with black pod infection
- A handful of healthy soil
- A cocoa husk
- A village map
- A spider
- An empty fungicide sachet
- A cocoa leaf damaged by mirids
- A straw hat
- A broom
- A watch
- A basket

The list should be prepared in advance.

Explain the procedure of the game. The groups have a maximum of 10 minutes, but those finishing early will receive additional points. When the procedure is clear, distribute the lists to the groups and let them start.

After all groups have finished, check the items that have been collected and give points for correct items. Extra points should be awarded for creativity, for example, a village map drawn by the group itself. The group with most points for speed, completeness and creativity, is the winner.

Debriefing questions

1. What strategies did your group apply to divide the tasks and collect the items?
2. What worked well and what did not?
3. What can we learn from this exercise?

Version: November 2004

Discovery learning exercise 36: Whispering a message

Learning objectives

- To demonstrate how messages get changed when communicated
- To start a discussion on factors influencing communication

Materials

- 2 sheets of paper
- Pen

Procedure

Write a message related to the topic of the FFS on a piece of paper that is not shown to any of the participants in advance of the exercise. An example of a message is:

“A good ICPM definition should stress the ecological approach of pest management and the integrated manner of applying all control techniques available”

Participants are divided into groups of 5 to 8 persons and lined up in front of a flip-chart. The first person in the line receives the card with the statement and reads it softly (whispering) to the next person in line. You are not allowed to ask questions or ask for repeats. The person whispers what he/she hears to the next person in the line and so on until the last person in the line has received the message. The last person receives a marker and writes on the flip-chart what he/she has heard.

Once all groups have finished the exercise, compare the results among the groups and with the original message.

Debriefing questions

1. How much of the information was lost in each transmission?
2. How can we improve communication so that information is not lost?

Version: March 2003

Discovery learning exercise 37: Saboteur

Learning objective

To create a group strategy for recognising and dealing with sabotage (behaviour that may be harmful to the group)

Note: can be used as a group dynamic exercise or energiser

Duration

15 minutes or longer depending on the length of feedback

Materials

- Flip chart paper
- Markers

Procedure

The participants are divided into threes. Within each subgroup, they have to fill three roles – the speaker, the listener and the saboteur. The speaker and listener face each other to talk, while the saboteur can move about. The speaker is asked to describe some aspect of their work or life to the listener. The saboteur is asked to try to sabotage (i.e. disrupt) this discussion in any non-violent manner.

Roaming saboteurs can move between groups. These may be the facilitator, plus any others who did not join groups.

After two minutes ask participants to change roles. Change roles again after two more minutes, as it is essential for all participants to have the opportunity to play all three roles. Everybody should know what it feels like to be a saboteur and to be sabotaged.

Discuss the exercise using the debriefing questions. Write responses on how to deal with saboteurs on the flip chart.

This exercise and discussion may be especially useful if there are particularly disruptive members of the group. Such an exercise may be an opportunity for them to reflect on their behaviour and for the group to develop ways of dealing with disruption.

More important, however, it introduces the notion of sabotage to the whole group, as well as focusing on strategies to deal with it. During the FFS, it is likely that participants will self-regulate without any input from the facilitator. Any interruption will be greeted by calls of “sabotage”.

Debriefing questions

1. What was it like to be a saboteur or to be sabotaged?
2. Did you find it easy or difficult to disrupt the conversation?
3. What different types of saboteurs did you experience or have you experienced in the past? Examples include dominance, rigidity, interruptions (answers/questions), joking and not being serious, rudeness, silence, taking-over with enthusiasm and physical distraction by fidgeting
4. How have you or could you deal with saboteurs?
5. What are the ways groups can deal with saboteurs. Examples include: ignore politely, polite/clear interruption; stop the discussion, talk it out (publicly or personally); acknowledge and postpone; divert attention- form sub-groups or set task; use saboteur for debate; ask others for help; allow it; walk away.

Version: January 2004

Discovery learning exercise 38: Knotty problem

Learning objective

To demonstrate to participants that groups empowered to solve their own problems are much more successful than if instructed by outsiders

Duration

10-15 minutes

Materials

None

Procedure

Select one, two or three participants to act as managers. They are asked to stand aside (out of hearing distance), while the facilitator instructs the rest of the group.

Game 1

Divide the remaining participants into 1-3 groups. Ask them to hold hands in a circle and tie themselves into as entangled a knot as possible. They must not let go of each other's hand at any cost.

Tell the participants to follow the manager's instruction literally and not make it easier for them by doing what they have not been told to do.

Once the knot is complete, the managers are asked to return and to unravel the knot within three minutes using verbal instructions only.

Instruct the managers to hold their hands behind their back. They are not allowed to touch the group, only instruct them verbally.

The first attempt is generally not successful and sometimes even produces a more complex knot.

Game 2

Now repeat the exercise with the managers participating in tying the knot. When the knot is ready, simply instruct the participants "get out of the knot yourselves".

Debriefing questions

1. The second untying process is usually much quicker. Why? How does this apply to the real world?
2. What does the game tell us about the role of “outsiders/managers” and “insiders” in the knot?
3. What does the exercise tell us about the effectiveness of “outsiders/managers” in organising people?

Version: May 2004

Discovery learning exercise 39: The prisoner's dilemma

Learning objective

To demonstrate that groups can evolve competitive or cooperative strategies by exploring trust, the effects of betrayal of trust, the effects of competition and the process of developing cooperation

Duration

About 60 minutes

Materials

- Pens
- Paper

Procedure

Divide participants into an even number of teams. Explain that the objective of the game is for each team to maximise its own score.

The teams are paired (an A team and a B team playing opposite each other) and instructed not to communicate with the other team in any way, verbally or non-verbally, except when you tell them to. They can discuss amongst themselves to choose between Red strategy or Blue strategy. Red or blue is written on separate cards and each team gets one of each. Tell the teams how many points they will get in the situations outlined below.

Ten rounds are played in which each team chooses between Red strategy or Blue strategy. Set a time limit of three minutes for each round. When the time for a round is up, they hold up the appropriate card for everyone to see the team decision.

At the end of each round, the scores for each team are identified and recorded based on:

- Both groups choose red- both score 2 points
- Both groups choose blue- both score 1 point
- One chooses blue and the other chooses red- blue gets three and red 0.

At rounds four and eight, the teams are allowed to consult.

After the 10th round, a final score is calculated and a debriefing is held.

Comment

The normal result is that both teams agree to choose red to get maximum group allocation, and then one or both plays blue. The double crossers score three points and the one staying with red gets zero. Teams will thus try to get their double-crossing in first. There are two scenarios: (1) trust between the teams slowly decreases until each is determined to mislead and cheat; or (2) trust becomes enhanced and fixed by some form of mutual agreement.

At the end the trainer compares the scores of individual teams, the aggregate pair scores and the overall score. The maximum individual team score is 30 points; (if they choose blue every time and their paired team always choose red); the maximum aggregate pair score is 40 points (if each group chose red every time). Variations on this game include only having two teams, who send out representatives for negotiations at rounds four and eight, and announcing that the scores will be doubled at these stages.

Version: January 2004

Discovery learning exercise 40: Rope square

Learning objectives

- To explore how a group works as a group on a difficult task
- To show how people adopt different roles in a group

Duration

20-30 minutes

Materials

A piece of rope that is tied so that it forms a circle sufficiently long so that half the total group can hold onto it with both hands.

Procedure

Divide participants into two groups: the silent observers and the square-formers. Lay the rope in a circle on the ground. Ask the square-forming group to stand in a circle around the rope. The observers should stand back and watch in silence.

Ask the square-forming group to pick up the rope circle with both hands. Ask them to close their eyes and walk around in a circle, still holding the rope, so that they become somewhat disoriented. Then ask the group to form a perfect square with the rope (eyes still closed). Group members can talk to each other (in another version of this exercise they can remain silent). The other group should observe the dynamics without commenting. Change the roles of the groups and then debrief.

Debriefing questions

This is potentially a very powerful exercise, revealing a lot about the different types of actors within the group, including leaders, saboteurs etc. There are always too many leaders. Use these questions to draw these points out:

1. Who felt frustrated?
2. Were the instructions given by other group members clear?
3. How did you respond to contradictory orders or requests?
4. Who took the lead? Why? When?
5. Who played a bridging role?
6. Who kept quiet?
7. Who cross-checked and evaluated orders from others?

The point is not to make the evaluation personal, but to point out the range of qualities of members of the group and how they interact successfully and unsuccessfully in completing a difficult task.

Version: November 2004

Discovery learning exercise 41: Line up

Learning objectives

- To encourage participants to know more about each other with regard to physical and personal characteristics
- To encourage group collaboration

Duration

10 minutes

Materials: None

Procedure

The participants form two groups. If the number of participants is odd, the smaller group should be complemented by one of the facilitators.

The facilitator explains the rules of the game and checks to make sure that everyone understands them. The rules are as follows:

The two groups will compete to see which can line up most quickly according to personal or physical characteristics following the instructions of the facilitator.

After naming the characteristic and giving instructions for how to form the line (if, for example, the characteristic is height, line up from shortest to tallest), the facilitator will slowly count to 10. If a group finishes forming the line before the facilitator reaches 10, the participants should all squat or raise their hands (agree on the movement to be made) to indicate they have accomplished the task. The facilitator checks the first group to finish to see whether the sequence they made is correct.

The group that lined up most quickly and with the fewest errors is the winner.

Debriefing questions

1. Why did the winning group win?
2. Who became a leader in each group?
3. What did you learn from this exercise?

Version: November 2004

Discovery learning exercise 42: Follow me

Learning objective

Energizer

Duration

5 minutes

Procedure

Ask participants to stand up and imitate all your movements. Extend arms forward and begin clapping hands, first slowly but at increasing speed until everyone claps mechanically. Then suddenly stop. Notice how many participants continue to clap.

The exercise can be repeated by clapping above the head or with different movements.

Debriefing questions

1. Why did some people continue to clap when the person they were imitating stopped?
2. Why couldn't they imitate exactly?
3. What can be concluded from this exercise?

Version: November 2004

Discovery learning exercise 43: Releasing rope

Learning objective

To raise awareness about problem-solving strategies

Duration

15 minutes

Materials

Length of rope of 1 meter, as many as the number of participants

Procedure

Cut 1 meter length of rope and make loops at each end, wide enough for a hand to go through.

Ask participants to form pairs and give each pair two ropes. Each participant should move both hands through the two loops of a rope, but in such a way that the two ropes of a pair cross each other and the partners are tied together.

The two pairs should try to free themselves without removing the rope from their hand. If a pair is successful, ask them to show their solution to the others.

Debriefing question

1. What did you learn from this exercise?

Version: November 2004

Discovery learning exercise 44: Drawing a house

Learning objective

To raise awareness about collaboration and process control within a group

Duration

10-20 minutes

Materials

- Flip chart paper
- Markers

Procedure

Ask participants to form pairs. Both partners of a pair should hold the same marker in such a way that they are able to draw or write together.

Ask the partners to draw a picture of a house and write a title together on a piece of paper. They are not allowed to speak during the exercise.

Debriefing questions

1. How did you feel and react during the exercise?
2. What factors contributed to or constrained the process of joint drawing and writing?
3. What can we learn from this exercise? Have you ever experienced similar feelings or reactions in a real life situation? What constraints do we normally encounter in group collaboration?

Version: November 2004

Discovery learning exercise 45: Matches

Learning objectives

- To make everyone consider the value of their contribution
- To encourage a listening attitude in discussion

Duration

Up to you, but decide on the time before you start

Materials

Three to six tokens (such as matches or bottle tops) for each participant.

Procedures

Give each person the same number of tokens, the total of which depends on the time limit. Introduce a topic for discussion. Every time someone speaks to the group, they put one of their tokens in the centre. If they have no more tokens, they cannot speak.

Comments

As every remark is equally valuable, speakers must first evaluate their contribution and consider whether it is worth it in terms of its intrinsic value and relevance. Knowing that every speaker has made that evaluation, others are more likely to listen, though there is a danger that others will be so busy deciding whether to speak that they won't listen at all.

An alternative to putting the matches in the centre is for each speaker to give the match to the person they are speaking to.

Version: January 2004

Discovery learning exercise 46: The pillow game

Learning objectives

- To make a discussion more orderly and to encourage listening
- To uncover the roles played by people in a discussion

Duration

As long as the discussion takes

Materials

A soft object that can be passed or thrown around, such as a cushion, pillow, rolled-up pullover, or ball of newspaper

Procedure

The group sits or stands in a circle to hold a discussion related to the special topic. Tell the participants that they can speak only if they are holding the pillow, otherwise they should remain silent and listen to what is being said.

When an individual has finished talking they can pass the pillow on – either to someone with their hand raised who is requesting to speak, or to someone else.

Participants may place the pillow in the centre of the circle on the floor, from where it can be picked up by anyone in the group. This may exclude the shyer people. If someone receives the pillow and doesn't want to speak, they can just pass it on.

Debriefing questions

1. How does it feel to hold the object?
2. How does it feel to receive it unasked and to receive it when requested?

Comments

Those who were given the pillow without asking might have felt uncomfortable and have felt forced to participate.

The game encourages a listening attitude; it allows quieter members of a group the opportunity to speak. It also makes more dominant members conscious of the amount they are speaking since they are holding the pillow. Once the procedures are learnt and become automatic, many groups find this a very useful way of organising group discussions. It dispenses with the need for an authoritative chairperson as the rules are built in. It often helps with later plenary sessions, when participants will refer back to the pillow game to ensure that everyone has the chance to speak

One variation is to allow participants to turn their back on a speaker if they are bored with them, or find what they are saying irrelevant. This is a very direct act, which serves to stimulate discussion during the feedback session.

Version: January 2004

Discovery learning exercise 47: Finding one's group (animal sounds)

Learning objectives

- To demonstrate participants' need to feel accepted
- Entertaining way to form groups
- Energize participants

Materials

- Small pieces of paper, enough for each participant
- Pen

Procedure

Before the session, think of different kinds of animals that have their own sounds, for example, dog, cat, duck, pig, rooster. Divide the number of small pieces of papers into groups of 5 or 6. For example, if there are 25 participants/pieces of paper, you will have 5 groups with 5 pieces of paper each. Assign an animal to each group and write the name of the animal on each piece of paper in that group. Fold each piece of paper and mix all the pieces of paper together.

Ask each participant to pick one piece of paper. They should only open the paper when told to do so. Ask participants to look at what is written on the piece of paper in silence.

At your signal, ask participants to make the sound of the animal on their piece of paper. They should look around the group for others making the same sound and gather together with others making the same animal sound. Process the activity when each participant has found his group.

Debriefing questions

1. Did you enjoy the game?
2. How did you feel when you could not find your group?
3. Do you think participants will want to come back to the farmer field school if they feel they do not belong to the group?
4. How can we make others feel accepted in the field school?

Accept all answers as this encourages participants to share in the discussion and makes them feel respected. Emphasize individuals' need to belong and feel accepted.

Version: October 2004

Discovery learning exercise 48: The farmer's goat

Learning objectives

- Develop awareness of behaviour necessary for productive group interaction
- Develop debating and consensus building skills

Materials

- Flip chart paper or chalkboard
- Markers or chalk
- Masking tape

Procedures

Write the problem (see below) on the flip chart paper and read it aloud to the group several times. Ask participants to solve the problem individually, allowing 5 minutes for this task. Emphasize that there may be different answers to the problem. However, there is only one correct answer to the problem that all participants must agree on.

The problem

A farmer buys a goat at 10,000 cedis. He then sells it at 20,000 cedis. He buys the same goat later at 30,000 cedis, sells it again at 40,000 cedis.

The question is: Did the farmer gain or lose? If he gained, how much did he gain? If he lost, how much did he lose?

Ask participants for their answers and write them on the flip chart paper. All those with the same answer should group themselves together. Ask each group to explain and convince the other groups that their answer is the right one. Encourage groups to clarify their answers. By the end of the session, participants should arrive at a consensus as to the right answer to the problem.

Debriefing questions

1. Why did participants arrive at different answers to the same problem?
2. What did you learn from the exercise?

Version: January 2004

Discovery learning exercise 49: WAO CLAP

Objectives

- Energize participants
- Show appreciation of a specific participant

Procedure

All participants clap together: Pa-pa-papa-pa-Pa, then shout: WAO. WAO.WAO.
Repeat two or three times

Version: June 2004

Discovery learning exercise 50: I have a hammer

Objective

Energize participants

Procedure

Teach participants this song:

I have a hammer. Hammer. Hammer.
I have a hammer that becomes two (2)

I have a hammer. Hammer. Hammer.
I have a hammer that becomes three (3)

I have a hammer. Hammer. Hammer.
I have a hammer that becomes four (4)

I have a hammer. Hammer. Hammer.
I have a hammer that becomes five (5)

I have a hammer. Hammer. Hammer.
I have a hammer that becomes six (6)

I have a hammer. Hammer. Hammer.
I have a hammer that becomes seven (7)

While singing, participants demonstrate with their hands, legs, head, neck etc as the numbering of the hammer continues, until every part of the body is involved.

Version: November 2004

Discovery learning exercise 51: In the lake, out of the lake

Objective

Energize participants

Procedure

Participants stand in a circle; one person is the leader. The leader explains that we are standing on the banks of a lake. The leader explains that participants must jump in and out of the lake to avoid being eaten by crocodiles.

The leader shouts “In the lake”, “Out of the lake”, in rapid succession, changing the order of the command. This is done for several rounds.

Participants who do the opposite of the command given (for example, jump in the lake when the command is “out of the lake”) are out of the game.

The game is won by the participant who remains in the game.

Version: June 2004

Part III

Guides for conducting field activities

Sanitary harvesting

- Sanitary harvesting means removing all diseased pods. The purpose of sanitary harvesting is to prevent the spread of diseases such as black pod.
- Sanitary harvesting should be done regularly. Begin inspecting cocoa fields at the start of the rainy season. After 2-3 days of continuous rainfall, check for pods with black pod symptoms. Move across the field in a systematic manner to make sure you inspect all trees.
- Remove all pods with black pod symptoms and old, black pods (mummies). Make sure to remove pods with only few spots as within days these will start forming spores and infect other pods.
- Collect the pods and burn them. You can also use the pods to make a compost heap, if you know how. Do not bury the pods, as the disease will spread from the soil with splashing rainwater. You can also spray attacked pods with fungicide before burying them to kill the spores or put the pods in a plastic bag before burying them.

Removing chupons

- Chupons are new branches that grow on the tree stem or the larger branches. Chupons grow fast, and will over time develop in new trunks or large branches.
- Chupons should be removed because they take food, water and energy from the tree, which reduces production.
- Remove chupons regularly and at any time of the year. Do not allow chupons to grow too big.
- Move from one end of your farm to the other, making decisions about chupons on each tree as you go.
- Cut chupons off close to their base. Using a shape machete, make a “clean” cut at an angle.
- When the original stem is not healthy or damaged, you may decide to allow a new chupon growing low on the stem and below the area of stem damage to grow bigger and develop into a new trunk.
- You may decide to leave chupons if a tree needs more branches. A tree needs more branches when there are not enough branches to capture sunlight. Where there are not enough branches, you see a lot of sunlight coming through the canopy to the ground

Removing moss and epiphytes

- Moss often grows on cocoa tree stems and branches, especially when trees are old and there is a lot of humidity and shade in the farm.
- Moss holds moisture that increases the risk of black pod disease and tree canker. Because moss covers the bark of the stems and the tree, it stops flowers from growing on the bark, which reduces the number of pods produced.
- You can remove moss and epiphytes from cocoa trees at any time of the year, but it may be easier to do it when you are pruning and weeding your farm at the beginning of the wet season.
- Moss should be removed from the tree by careful scraping with a machete, taking care not to damage the bark of the tree. Use a machete to remove epiphytes, taking care not to damage the bark.
- You can also control moss by applying sodium chloride or other herbicides used in the recommended doses and applications.
- Experiment with salt and other solutions to see if moss drops off. Prepare a salt solution of 1:10 ratio by mixing 10 cups of water with 1 cup of salt. Pour the mixture in a sprayer and spray on moss covered stems and branches.

Removing mistletoes

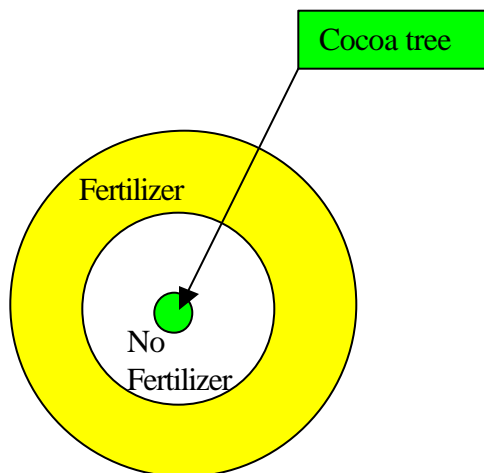
- Cutting out mistletoes is best done during the mistletoe flowering season, as then they are easiest to see.
- In heavily infested farms, cutting-out of mistletoes should be done each year until the infestation becomes more manageable.
- A machete can be used to cut out mistletoe plants from small, young cocoa trees. A pod-harvesting hook (a small sickle) tied to a long pole can be used for cutting-out young mistletoes. A long-handled pruner is needed for older mistletoes. Problems arise in very tall trees, as it may be impossible to reach mistletoe plants even with long-handled pruners.

Where to apply ground fertilizers

The best place to put fertilizer is in a circle about 75 cm away from the stem of the tree (see diagram below). The roots of a mature cocoa tree that absorb nutrients and fertilizer are about 75 cm meter away from the stem. This root system spreads roughly as far away from the stem as the canopy of that tree grows.

Many farmers think the best place to apply fertilizers is near the stem - but this is wrong. If you look at the root system of a cocoa tree, you see that near the stem there is only one long, thick root going straight down, sometimes as deep as a few meters. This root (the tap-root) does not have the tiny small roots (hair roots) near the surface that absorb food (nutrients) and fertilizer.

Diagram showing where to apply ground fertilizer



Making compost

Materials

- Plenty of plant material, both dry and green
- Ordinary top soil
- Animal manure or old compost
- Wood ashes and charcoal dust
- Several jars of water

Procedure

Select a location close to the place where the compost will be used. Make sure it is sheltered from the wind, rain and sun as the compost heap must not get too hot or dry.

Measure out an area one-and-a half meters to two meters wide and any convenient length depending on the available composting materials. It must be possible to work on the compost heap without actually stepping on it.

Loosen the soil where the compost pile will be made. The materials need close contact with the loose soil at the bottom. It is best to make a shallow trench about 30 cm deep. The topsoil obtained will be used in the compost. Therefore, put it on one side beside the trench.

Lay down a bottom layer should be of rough vegetation such as maize stalks or hedge cuttings chopped into short lengths. This layer should be about 30 cm thick.

The second layer should be manure or old compost or slurry. It should be about 10 cm thick. Sprinkle some of the topsoil on top of this layer so that it just covers the material. Do not put on too much soil, and only use topsoil.

The third layer should be made up of green vegetation about 15-20 cm thick. Use green weeds, grass, hedge cuttings or kitchen waste. If you have wood ashes, sprinkle some on top of the green vegetation. If wood ash is not available, use topsoil. Add water to the heap using a watering can or any other convenient container.

Add more layers by starting again with rough vegetation then manure or old compost, topsoil, green vegetation, ash or soil and finally water again. Repeat this process until the heap is 1-1.5 m. A well-made heap has almost vertical sides and a flat top. If you have a lot of material to compost, build several smaller heap (about 2 m in length).

Complete the heap with a 10 cm layer of topsoil. To prevent loss of moisture, the heap can be covered with dry grass or plant leaves. The heap needs to be moist, but not wet.

Check the progress of composting regularly by sticking a dry stick into the heap at an angle. The stick should be pulled out regularly to check whether it is warm, an indication that the composting process is still going on. Use the stick to tell whether the heap is still moist. If the stick is dry, add more water to the heap.

Check the stick regularly also for the presence of a fungus called "fire fang". Fire fang destroys the compost once the compost heap becomes dry. Fire fang turns the stick white, and if you detect it, add water immediately to the heap.

After about 3 weeks, the materials in the heap are likely to have decomposed. The stick should be cold. It is now time to turn the heap.

Make sure that while turning the bottom part of the heap ends up on the top. This is necessary because decomposition at the bottom goes slower than at the top. Do not add any fresh material during turning, except water if "fire fang" has developed.

After three more weeks the heap should be turned a second time. The heap should stay moist, not wet. Use the stick to monitor progress. When the stick is cold, decomposition is complete and the compost is ready for use.

The compost should have a fresh earth smell and no grass, leaves or animal droppings should be visible. Some woody branches or stalks may still be present as they take a long time to decompose.

If the planting season is still some time away, leave the heap where it is. Keep it well covered and moist, but not wet. Compost is wet when water drips out of a handful which is squeezed tightly.

Apply compost to your cocoa farm at the beginning, and any time during the wet season.

It is advisable to start a new compost heap with compost from an old heap.

Post-harvest activities

Harvesting

- Only harvest ripe pods: those that are completely bright yellow. You can also harvest some pods that are half or $\frac{3}{4}$ yellow, although make sure that these half yellow pods are not the majority of the pods you harvest.
- You can also tell if a pod is ripe enough for harvesting by shaking it. If the pod rattles, it is ripe because the pulp is soft, allowing the clump of beans to rattle against the pod wall.
- Make a clean cut with a machete (adults only), avoiding damage to flower cushions as this is where future pods will develop
- Avoid picking up pods with a machete as this can allow mould to enter pods
- Harvested pods can be stored on the ground for 5-7 days until there are enough to build a good fermentation heap.

Pod breaking

- Break pods no later than 7 days after harvesting
- Break pods using a machete (adults only) or a stick
- Throw away waste (the placenta) and select and throw away the following beans:
 - Germinating
 - Discoloured
 - Diseased
 - Broken
 - Flat

Fermentation

- Immediately after pod breaking, prepare the fermentation pile
- Place banana or plantain leaves at the bottom of where the beans will be fermented (a circle of leaves radiating out from the centre works well). Place the wet beans in the centre of the leaves and fold the leaves over the beans. Cover up any gaps with more leaves and weigh the leaves down with logs or large stones.

- The fermentation pile should be in the shade.
- Larger fermentation heaps are better than smaller heaps because with smaller heaps the temperature does not get high enough to allow favour development to take place properly. Ideally, each fermentation heap should contain at least 20 kg of wet beans but not more than 2000 kg.
- Do not mix the beans with cocoa waste
- Cover the beans with banana or plantain leaves; never use black plastic
- Before covering the pile, remove germinating, discoloured and diseased beans as well as any waste
- Make sure that the pile of beans is completely covered but make sure air is able to get in.
- Ferment beans for a total of 5-6 days.
- After 2-3 days, turn the beans to ensure a good fermentation of all the beans, including those in the middle of the pile. Turn the beans **ONLY ONCE** during fermentation.

Drying

- After 5-6 days of fermentation, place the beans in the sun to dry
- Remove germinating, discoloured and diseased beans as well as cocoa waste
- Never use fire to dry cocoa beans as it gives the beans a bad taste
- The best way to dry cocoa beans is on tables. This method allows the beans to be kept off the ground, preventing them from being mixed with soil and stones and allowing air to circulate underneath the beans.
- Cocoa beans should be placed on the drying tables and spread out in a layer no more than 8 cm (3 inches).
- In conditions of full sun, drying beans should be turned about once every 2 hours.
- During drying, protect the beans from moisture, dew or rain. At night or if it rains, cover the beans with a waterproof tarpaulin or plastic sheet.

- To avoid mould development, do not allow partly dried beans to get wet.

Sort the beans while drying by removing beans that are germinating or flat. Remove any waste or cocoa husks

- Continue drying until the beans are well dried. Beans are dry when they makes a cracking sound when lightly pressed

Storage

- After drying, sort the beans by quality
- Put beans of uniform quality into clean bags
- Store the bags in a dry, well ventilated area
- Make sure the storage place you use has no leaks and that rainwater does not run down the walls
- In the storage area, make sure the bags do not touch the ground
- Never store the bags where there is fire or where cooking is done