



PLAYGROUND IN UGANDA

Project 4002

PLAYGROUND IN UGANDA

Door een speeltuin op het schoolplein van Oeganda te plaatsen, willen we een verbinding creëren tussen de leerlingen. We willen ze spelenderwijs met de samenleving laten omgaan door ze te confronteren met de problemen in de huidige samenleving.

Lucas Don, Maurits Hobbel en Twan van Luijk

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Introduction

We, Lucas Don, Maurits Hobbel and Twan van Luijk have chosen the project 4002 for world school. We are in VWO 5 of the CSG Prins Maurits and follow the module NLT. 1 of these modules was world school. For this we chose to design a playground in Uganda because it really appealed to us, and we thought it would be nice to delve more into it. We have made a set-up of a possible plan that could be worked out. We also want to discuss different playground equipment. We do this based on the floor plan. We looked at the dimensions, accessibility, responsibility, and the costs. In this way we want to get a better overall picture of the situation and we hope that the school in Uganda can do something with our plan.

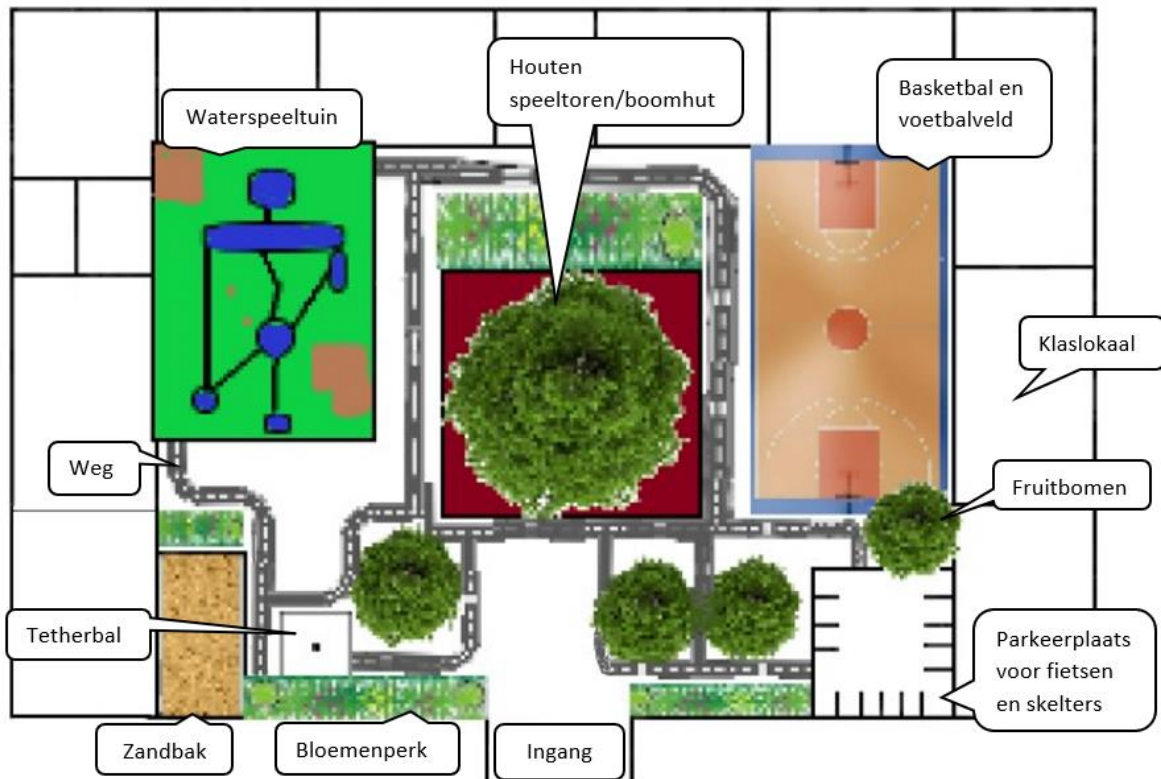
We want to keep everything as accessible as possible for every student because there are also several students at the school who have a disability. So, we have mainly taken this into account. What is also an important factor in our plans is the responsibility we want to give to the children. We think it is important that every student feels responsible with the interaction of nature. We want to convey a message that what you do can have major consequences. They will notice this if they do not take on the responsibility properly. In addition, we also want to teach the students something. We want to prepare them for the society they can get into. We want to make them proficient with the technology and the rules in society. We mainly start from Western society, but we also looked at the situation as it is now in Uganda.

With the help of all these factors, we hope to paint a good picture of the situation now, but also to provide a solution that can possibly be used. We want to keep everything as real as possible to make the execution more realistic. Another important goal is to make the people who could possibly carry this out enthusiastically. We hope our research will give you ideas or give you insights that can be used to help the children but also the teachers in Uganda.

General information

The dimensions of the complete school building are 35.5 times 43 meters. This amounts to an area of 1526.5 m². The schoolyard itself has dimensions of 18 by 29 meters. This amounts to an area of 522 m². We want to place multiple play attributes in the schoolyard. The [map](#) is based on the information we have received from our contact person, Marja Verzijlberg.

Map



Various playground equipment developed

Water playground

The water playground is an easy to build playground equipment and is also not expensive to build. Below is described how the playground equipment works and how it should be built.

The device consists of two parts, the water pump, and the wooden water channels. The water pump must be installed at a water source, and all wooden water channels can be connected to the water pump. This allows the water to cover a very cool course. You can also vary by placing lockable dams in the gutters and a water wheel to transport the water. The playground equipment is easy to maintain, and parts can easily be replaced.

The best thing about the water playground is that you can make it as crazy as you want.

Components:



Tetherball

Tetherball is a sport that originates in America. It consists of one big pole with a rope attached to it. At the end of the rope is the ball. The goal of the game is to wrap the rope around the pole in your direction. It is very easy to build and is fun to play. We made a poster of the rules of the game which you can find in the [attachments](#) (tetherbal-rules-how-to-play-tetherbal, 2022).

Wooden play tower

In the middle of the playground, as can be seen on the [map](#), is a wooden play tower. We want to realize this play tower with materials from the environment. There are many trees and plants nearby that we can use for the play tower. The large mangrove tree is one of the many examples of trees that we can use. The tree should have overarching leaves that provide shade. Here the students can have lunch and sit. We therefore want to place benches under and in the tree.

We want to make sure the tree is safe to sit in. The tree must therefore have a solid structure. Several branches are also important so that we can easily attach a plateau. So, we want to mimic a tree house that is safe, but also easy to reach. So, we want to attach stairs to the sides, but also, for example, a sliding post. For example, there are several ways to get in and out of the tree house / play tower. This makes it less crowded when climbing the tree house, so it is also safer. The materials with which we want to create the plateau also come from the environment. We only must cut down a few trees and attach them in parts to the many branches that the tree has.

We want to make a kind of house on the plateau, so that the students become familiar with society. It is important that the students socialize together in and under the play tower. The students who are unable to climb the tower may be in the shade under the tree. They can stand at the benches, wherever other students are. The students in a wheelchair can reach the tree house by the road. You will find [here](#) learn more about this topic.



We want to imitate this, perhaps at a lower altitude, but with the shelter of the many leaves, so that it is nice for every student to sit here.



The mangrove tree comes a lot from Uganda, and is therefore easy to use as a base for our tree house / play tower

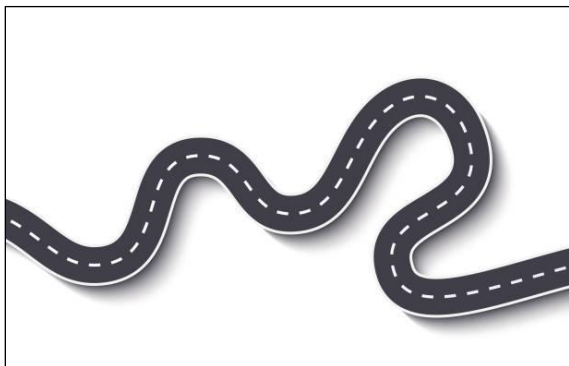
Road

As you can see on the [map](#), every attribute placed in the schoolyard is connected to each other. We connected the playground equipment by means of roads that run across the schoolyard. These roads are paved and with this we want to imitate society. By showing how the traffic rules, which they have learned with the theory, are now also applied in practice, they learn better how to use these rules.

We want to make the road with a paved material. This could happen with asphalt. This is not practical, because we can hardly apply asphalt there and it is difficult to finish it so precisely on this small scale. What can be tiles that we paint / spray black. We then apply white stripes that divide the road in two. The total area of the roads is about 100 m². This includes the parking space. We then arrive at a total amount of about 500 euros. We can also choose used tiles that are cheaper. We also need white paint for the stripes on the road surface.

To imitate society even better, we want to install zebra crossings and traffic lights. These zebra crossings can be painted on the tiles. The students must therefore learn to use this for safe crossing. In addition, we want to make the traffic lights out of wood and paint them. This can also be done easily with materials from the environment. So, we show how the traffic rules are put into practice. In this way, the students learn to deal with one of the aspects of society that they will later end up in.

We want to make a small parking space under the roof that is already there. We also do this with tiles and white paint. We want to store go-karts and bicycles here. We can import these bicycles and go-karts from the Netherlands. Many primary schools have these bikes / go-karts left over and would like to donate them to us. This allows the children to learn to ride a bike and adhere to the traffic rules. With these bicycles and go-karts and in combination with the wheelchairs of the disabled children, the road can be used.



So, we want to make a road with tiles, and paint it in such a way that we mimic a road that we also encounter in the city.



We would like to make such large traffic lights and place them along the road. The traffic lights are made with wood from the area and painted with paint.

Football/basketball court

The combi field consists of a football and basketball court with multifunctional goals with which you can alternate the game on the football goal, a basketball net is attached so that you can play basketball and football. On the football field it is useful to indicate a middle tip and penalty tip, indicating the goalkeeper area is also useful. On a basketball court, it is necessary to have a centerline and to have a three-pointer area and a penalty spot.

The field can be of tiles, grass, sand or artificial grass and we work out tiles, sand, and artificial grass because we think that grass will not really work if children start running over it. It is an area of 12 x 7.8 meters so 93.4 square meters.

If you want to tile the surface, you will have to buy tiles for about 95 square meters and paint for the lines on the field. An advantage of tiles is that you do not really have to maintain it and that it is easy to paint lines on it. A disadvantage of tiles is that if you fall you have a painful abrasion which makes it less child friendly.

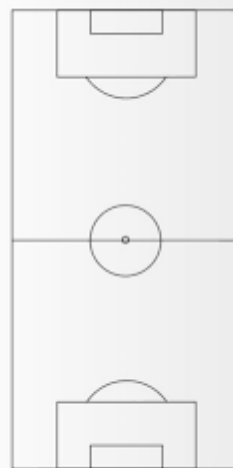
If we make the surface from sand, you do not have to tile the surface. What is a disadvantage, on sand you cannot easily apply lines because the dust quickly fades or blows away. As a replacement, you can use tiles to make the middle tip and the penalty tip, and you could also align the goalkeeper area and the three-point area with tiles.

Another option is a type of artificial grass that you can easily paint lines on and that also requires almost no maintenance. Another advantage is that falling produces less severe abrasions than with tiles. Of course, you must buy that for an area of about 95 square meters.

The basketball net and the football goals can be purchased, or they can be recreated but that is quite hard to do.



We want to combine a football and basketball field with this construction. This way the students can choose what they want to do.



This is the top view of the lines to be applied to the field. These lines allow students to play both football and basketball. This section is less accessible for the children who are in a wheelchair than the other play attributes.

Fruit garden

Not the entire schoolyard is occupied by [roads](#) or [play equipment](#). There are some open spots left. We want to fill these with flowers, shrubs, and trees. This way we get a greener whole, and not the whole schoolyard is open. This also fits well with the large tree, in which the [play tower](#) is located.

In these open spaces we first want to sow flowers. About $\frac{1}{3}$ of the surface goes to flowers. This is about 70 m². We need about 2 grams of seed per square meter to cover the soil well. We can buy 50 grams of flower seeds for 11 euros. (Graszaadirect, 2022) This allows us to sow flowers that can reach a height of 20 to 100 cm. So, we need a total of about 150 grams of seed, which means that we spend 34.50 euros for this. The flowers will start to grow after a few years, so that there will be more flowers. By sowing the flowers, we also help with the biodiversity that is rapidly declining during this time. It is important that the students water the flowers themselves. They do this from the [water playground](#). In this way we give the students a responsibility. It is therefore important for the students to keep an eye on when the flowers need water. The teachers can of course help a little with this and at the same time also explain the different flowers and their operation.

The rest of the surface area we have left, about $\frac{2}{3}$, we want to use for planting shrubs and trees. We want to grow as many fruits as possible. There are countless fruits that can survive excellently in the climate of Uganda. Fruit grows in abundance in Uganda. Watermelon, passion fruit, pineapple, mangoes, tomatoes, eggplants, peppers, avocados etc. (Kazurisafaris, 2022). The banana is very popular and grows well there. So, we want to put down a few banana trees. In addition, we also want to grow watermelons and mangoes. Again, we have a task for the students. They must again take care of watering the trees and shrubs. After a long period of time, they can benefit from this, because they can then pick and eat the fruit that they have grown themselves. Each student can eat as much as he wants from the trees and shrubs, because there is still enough. Again, the teacher can help to remind of the watering. The water is taken from the [water playground](#). We have about 120 m² left for the trees and shrubs. This fits about 6 trees and about 8 bushes. These are fruit trees and shrubs. These are also maintained from the water from the water playground. The students can enjoy their own work after a while. This is only possible if they take responsibility and take good care of it. We can buy the trees as a small tree. Then they are about 15 euros each. These trees also stay a bit smaller and that is useful for the children to pick the fruits. The bushes have a similar price. We then arrive at a total price of about 210 euros for the trees and shrubs. For all the vegetation we want to plant, we spend 250 euros. Of course, there are also many trees and plants growing locally, so we could also use those to lower the price.

In the [map](#) we have indicated where the flower beds and where the trees and shrubs should be. Because of the large tree in the middle, we have taken shade into account. The trees should not get too little, but also not too much sun.



Among other things, we want to grow watermoeloes in the gardens between the roads.

We want the mangoes to grow on the trees so that everyone can eat them.

The bananas grow in bunches and are easy to pick by the children.



We want to recreate the flower garden in the open spaces we have between the roads. So, there will be small beds in several places with flowers planted in them. This creates a beautiful and green schoolyard.

Conclusion

We can say that the plans we have come up with are realistic. Obviously, there are costs involved, but if we add everything up, the price is not that high. Of course, this is not a definitive plan. It is a plan so that ideas can arise and so that more thought will be given to it. We have tried to work out some, in our opinion, good playground equipment. We think we have found a lot of information about this. All these ideas can be used. The intention was that the schoolyard would be accessible, educational, responsible, and cheap. If we put everything in a row, we meet these requirements well.

We need several bicycles / go-karts from the Netherlands that a school no longer needs or wants to get rid of. They can then go to Uganda where the students can practice with this. Many children can't ride a bike yet, so this is a good opportunity to practice it. Most of the materials we need for the play attributes can be obtained from the environment. We just need football goals and basketballs. We can also take over these second-hand. For the trees and flowers, we can look locally and in the nature around the school. The schoolyard can be expanded or changed with its own plans. By putting together this plan and research, we hope that we have given a good picture of a possible solution that could be implemented.

Logbook

Each lesson we worked on this project. We had 1 hour NLT in the week and we worked one or more hours in the week on this project at home. Below are the important data of our project.

16 November 2021, first contact with Marja Verzijlberg and introduction of our project

18 November 2021, we received details and pictures about the situation there from Marja Verzijlberg.

14 December 2021, finish of the plan of conduction and handed in.

21 December 2021, thinking about what ideas are handy to use in our playground.

28 December 2021, Holidays.

4 January 2022, Holidays.

11 Januari 2022, working out ideas we got during the holidays.

18 January 2022, working out ideas.

25 January 2022, Testweek.

1 February 2022, Testweek.

2 Februari 2022, start with preparing for presentation

12 Februari 2022, main idea for playground completed

28 Februari 2022, information for our presentation complete

7 March 2022, presentation finished

14 March 2022, presentation of our project with our contactpersons

18 March 2022, hand in the project to the teacher

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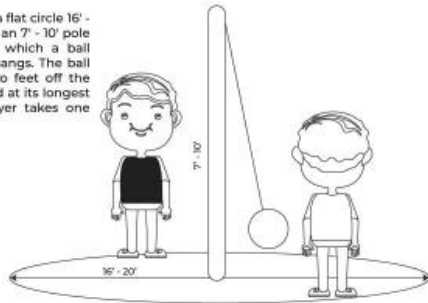
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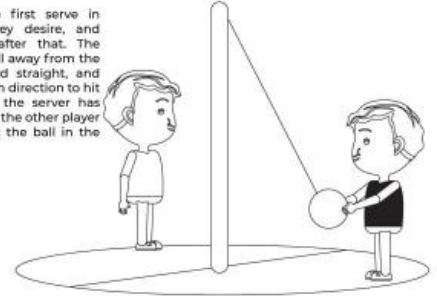
<https://kidactivities.net/tetherball-rules-how-to-play-tetherball/>

Attachments

- 1** A tetherball court is a flat circle 16' - 20' in diameter, with an 7' - 10' pole in the center from which a ball attached to a cord hangs. The ball should be about two feet off the ground with the cord at its longest extension. Each player takes one half of the court.

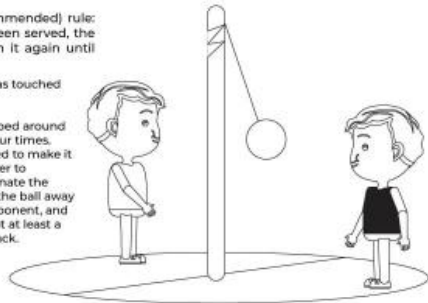


- 2** Players determine first serve in whatever way they desire, and alternate serves after that. The server pulls the ball away from the pole with the cord straight, and then chooses which direction to hit the ball in. Once the server has chosen a direction, the other player will attempt to hit the ball in the other direction.

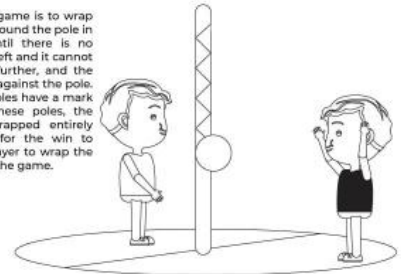


- 3** Optional (but recommended) rule: After the ball has been served, the server cannot touch it again until either:

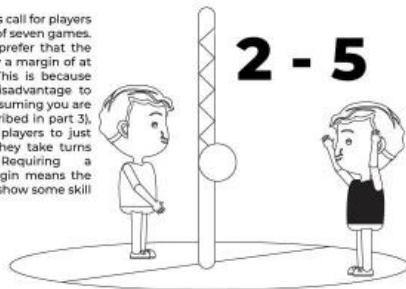
- a) the other player has touched the ball or
 - b) the cord has wrapped around the pole at least four times.
- This rule is intended to make it harder for the server to immediately dominate the game by keeping the ball away from his or her opponent, and gives the opponent at least a chance to strike back.



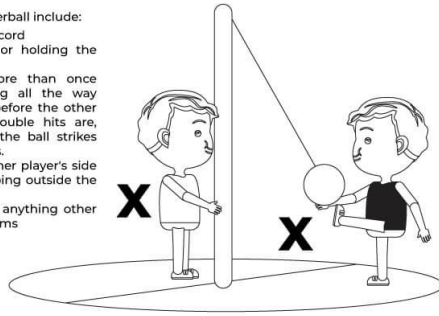
- 4** The object of the game is to wrap the cord entirely around the pole in your direction, until there is no more excess cord left and it cannot be wrapped any further, and the ball comes to rest against the pole. Some tetherball poles have a mark halfway up; on these poles, the cord must be wrapped entirely above the mark for the win to count. The first player to wrap the pole entirely wins the game.



- 5** Most tetherball rules call for players to play for the best of seven games. Some players also prefer that the winner be ahead by a margin of at least two games. This is because there is a slight disadvantage to being the server (assuming you are using the rule described in part 3), so it's possible for players to just alternate wins as they take turns being server. Requiring a two-game win margin means the winner will have to show some skill and luck!



- 6** Illegal actions in tetherball include:
- Touching the pole or cord
 - Catching, throwing, or holding the ball
 - Hitting the ball more than once before it has swung all the way around the pole or before the other player has hit it. Double hits are, however, allowed if the ball strikes the pole between hits.
 - Crossing onto the other player's side of the court, or stepping outside the court
 - Hitting the ball with anything other than your hands or arms



- 7** If a foul is committed by accident, rewind the cord to where it was when the foul was committed, and then the player who did not foul serves the ball to continue the game. If a player commits three accidental fouls, or one intentional foul, during a single game, he or she loses the game. Normally, only touching the pole is considered an intentional foul.

