

Land use at COP

Land use is an important aspect on climate change as the majority of global warming is due to the human use on land. However, land use is seen in many different ways and created different in different countries. Humans use the land for many reasons, some of which are positive such as agriculture and farming. Although, the majority of ways in which humans use the land is negative such as deforestation. This is one of the main reasons why it is one of the most discussed topics within the conference. The importance of land use is that it does not just cover how humans use the land as the natural use of the land can have effects on the land. The natural use would be through animals and plants within their own habitat and adaptation to land events and changes. However, land use does have an impact of a lot of aspects of the Sustainable Development Goals as land management could be related to no poverty, zero hunger and life on land. This shows that humans and nature are able to mitigate and impact the land can have changes globally. (UNFCCC, 2022).

Forest and Woodlands

One of the main land areas across the globe is forests and woodlands. These areas supply humans with lots of different materials, carbon and living conditions for some people. Forests are prone to a lot of deforestation which has knock-on effects on a large portion of the Earth. The deforestation takes away carbon from carbon cycle as tree are one of the largest stores of carbon throughout land areas. Deforestation also affects the soil from where the trees have been felled as the soil becomes very dry and desert-like. This means that the land will not be able to be used for replanting trees due to the lack of nutrients within the soil. Also, forests and woodlands could create exposure for humans of wild animals. This could link into an increase in disease within communities surrounding forests and woodlands.



Figure 1: Woodland with some deforestation, (unknown, 2022).

Within urban areas, urban parks and green spaces are becoming more common which is a big benefit for communities within these large cities. This is because green areas within these cities are seen as clean areas which can have an impact on people. This shows that governments have found ways to use forests and woodlands for the benefit of large communities. Urban parks are also becoming important as it provides biodiversity within the city which can support the temperature surrounding the city centre. (Tempesta, 2015). Forest emission reduction is a huge area that needs to be looked after as deforestation is taking away areas for carbon stocks and stores. This is allowing for carbon to be let out and released into the atmosphere increasing the greenhouse effect. Bout 11% of CO₂ emissions are due to the removal of forests as the carbon is not ablet o transport into the soil to form biomass. (Agrawal et al., 2011).

Agriculture

Agriculture is another important area on land which can be used for positive reasons throughout human use. Farming is the biggest way agriculture is used and this is through food production. Food production is important in lots of communities across the world as it

provides communities with economic benefits. Also the animal well-being is becoming a major factor as ways in which charities are teaching lower developed countries is through looking after the animals. One charity was providing communities in Africa with goats in hope that they would learn to use the goat the most sustainable ways. This shows that there are more ways in which people are learning to keep lower developed countries being more sustainable. (Chris de Bode, 2020). The financial agriculture and affordability are also talked about through the food prices increasing and the demand for the food worldwide increasing.



Figure 2: Women working to provide demand on food production, (unknown , 2020).

This is due to the rapid growth of the world's population in such a short about of time. This is adding to the increase in demand and causing problems for farming communities. This causes problems with food security and the reliability of the food that is being produced. This can be seen either in the amount that is being produced and the quality of the produced food. Agriculture does have negative effects on climate change as in a lot of farming as gases released can cause harm to the atmosphere such as methane from over farming cows. Also, the importing and exporting of all the farmed goods are through vehicles which contribute to the greenhouse effect.

Nature and Habitat

The natural use of the land is still influenced by humans as habitat loss is a major negative for animals and plants. Deforestation is a large area in which habitat is lost as lots of animals are made to move to different areas of the forest. Also, in more developed countries the addition of rural homes has an effect on some habitats as the fields would become concrete and floods would be more prone to the surrounding areas. However, there are still different ways nature is affected through natural events. Adaptation is important for nature as the world is changing through global warming. This includes the new weather changes which are affecting countries and climate change impacts are increasing in frequency and magnitude. The ecosystems for the animals are therefore being constantly damaged and changed through extreme weather events which are frequently occurring. The ecosystems are therefore changing as well as being damaged which is making wildlife change their yearly pattern and life within these ecosystems. Even though, the focus was on land wildlife the mention of changing oceans and the ecosystems within coral reefs becoming damaged and may not be able to be overturned.



Figure 3: Koalas after deforestation has destroyed their habitat,(WWF, 2018).

Land Use at COP 27

Main points spoken at COP 27 were that the impacts on climate change are increasing. This is shown by the large weather events that have occurred within the last few years such as the floodings in Pakistan and Bangladesh, droughts in Italy and large hurricanes hitting the US. These large weather events are becoming more frequent as there are constant large weather event occurring across the world.

One of the main points were looking at countries and the carbon emissions which were increasing in lots of countries. Therefore the focus of 'Race to Zero' was the notable phrase being used across the discussions. This was to show that countries were hoping to reach zero carbon emissions by 2050. There was also a day in which looked purely on agriculture and adaptation which shows the importance and focus on learning how to use land with more positive and beneficial for the land as well as for the humans. During this day the main focuses were at looking at how developing countries were able to lower emissions through not using fossil fuels. Also, the changing of weather events were mentioned as governments were looking into ways that could help prepare and mitigate for the worsening weather events.

One of the main pacts created during COP 27 was the rainforest pact. This is the biggest rainforest development as it covers over half of all rainforest area in the world. The countries involved were Brazil, Democratic Republic of Congo and Indonesia, with Brazil's president Luiz Inacio da Silva being the forefront of the talks. (Widianto & Spring, 2022). The pact was originally talked at G20 and had been in-off for over a decade. However, this pact will help in achieving some of the global issues. This is due to rainforests being one of the biggest carbon stores, so deforestation has a large impact on the rele



Figure 4: Luiz Inacio da Silva speaking at COP 27, (El-Mofty, 2022).

Therefore, this pact is looking into regrowing parts of the forest which are lost and replanting areas which are going to be cut down. This will hopefully balance the carbon being released and then absorbed by new trees which are growing. Another positive for developing countries is that Brazil, DR Congo and Indonesia are finding new ways to keep rainforests sustainable and will help other countries to become sustainable. REDD+ (Reducing emissions from deforestation and forest degradation) was another part which was mentioned throughout the pact as the hope of obtaining more funding for the conservation of the rainforests was an important factor. (Gratton, 2022). This would also help in reducing the greenhouse gas emission from the rainforests and the desertification on surrounding areas. This is a big improvement in the well-being of rainforests as it shows that rainforest countries are finding ways to cooperate in order to reduce the amount of carbon dioxide being released into the atmosphere. Luiz Inacio da Silva also mentioned gaining support from the other nine countries the Amazon basin is located in to help look after surrounding rainforest areas. (UNFCCC, 2022).

Past COP events

COP13

COP 13, Bali, was the first COP event in which forest health and reduction was introduced as deforestation was noticed as one of the driving forcing for global emission. However, before COP 13 the way in which deforestation was tackled was through trying to stop it rather than finding new ways to sustainably deforest. As well as finding new ways to deforest, the protection of the rainforests was important as the indigenous people who live within the forest were being moved around from deforestation. The focus on forests were to use less timber so the world would not have to solely rely on timber from the rainforests.

Greenhouse emissions were the main focus throughout Cop 13 as carbon dioxide was increasing at an alarming rate. This increase was making climate change even more dangerous; therefore it was important to find a way to effectively reduce the carbon dioxide being released. Another way that was looked into reducing emission rates was the amount of fossil fuels still being used worldwide. The main focus was to reduce the amount of fossil fuels which were being used in developed countries. This was put in place through monitoring and legislation to make sure that developed countries could help reduce the emissions and find new ways to support developing countries.

Desertification was another main target for COP 13 as the conservation and land degradation was becoming a major problem in areas surrounding rainforests and countries being affected by climate changing. This coincides with the Sustainability Development Goal (SDG) 15 and target 15.3 'by 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world'. (UNCCD, n.d). This target was created in order help rehabilitate, conserve and manage areas of land and water resources. Also, it was hoped that by 2030 areas affected by annual drought would be beneficial of the conservation techniques being displayed. This will also look at the ecosystems which have been affected so ecosystems needed to be maintained and mitigated for any other extreme event to occur. Creating countries to set targets with the land management as well as the living conditions within these areas. The condition of populations is through the food security, reduction in land degradation and diversify the local livelihoods. In Cop 13 they also looked into the effectiveness of the UNCCD which hopes to sustainably manage the land and find more agreements between countries to advance land management. This shows improvements on looking at conservation of land management as it supported ideas of helping areas which have been damaged in the past. However, it did not mention a lot in terms of agriculture and farming which could have helped in looking into some other desertification areas.

COP 19

COP 19, Warsaw, was a very important COP event as the main important land use was looking into the REDD+ and creating a readiness phase before putting it into practice. This decisions put forward were to monitor the forests through technical assessments as well as showing developments within the reduction of forest emissions. However, creating such a technical assessment was difficult due to the amount of guidelines and measures that would need to be submitted. (UNEP, n.d). These monitoring systems were then pitched to the most recent IPCC guidelines and measures which COP believed would be the best route to go in order to monitor the forests. These assessments would need to be flexible as it would

need allow for amendments in the forest systems and show how other forests could improve in comparison to forests improving quicker. The main factors that would be assessed are through the drivers of the deforestation. (Hub, 2013). Therefore, once the drivers have been singled out this would support the improvements which need to be made on each of the rainforests which are being monitored. The results of these monitoring systems will also look at the forest reference level which looks towards the sustainability of the forest and the forest carbon stock. The financial aspect of the monitoring systems was agreed to be a mix of public or private sources as it would help benefit both areas. There will be lots of multi-country funds being created such as the Green Climate Fund. The Green Climate Fund was created to support countries to reduce the carbon emissions and was very important when creating funding for the Paris agreements. The fund helps all key components of tackling climate change as it helps to build new environments, create renewable energy, looking into sustainable developments and land use management. The focus of the Green Climate Fund is developing countries as it can support developing countries into growing without the carbon emissions increasing as well. The Green Climate Fund is open to most countries and has helped a number of countries with environmental support through projects and programmes. (Green Climate Fund, 2021). A lot of COP 19 was focused on the forest emissions and different ways to monitor the emissions being released. Similarly to COP 13, there was no real mention on agriculture and farming. This could be as the belief going into the conference was that forest emissions were more important, and the focus was on tackling climate change. Also, there was not much with animal habitat spoken about even with all the monitoring within the forest habitat.

COP 23

COP 23, Fiji, had a lot of focus on multiple different areas of land use as food security, weather events and supply of food were some of the main points throughout the event. From the start of the COP event one of the main focus was 'Climate action for food security: Harvesting adaptation and mitigation benefits in the land sector' which looked into sustainable food production. The link that was made to increase concern was through the global hunger and poverty was going to increase in the future due to the increase of natural disasters. These natural disasters also were going to cause mass migration which has an effect on food production in areas people are moving out from. Another main point was that in order to reach the Paris agreements all countries would need to work together and to attempt the Sustainable Development Goals by 2030. The mention of fertiliser use was an important issue for Tekini Nakidakida, one of the speakers, as he believed that fertiliser use was damaging the land quicker which would result in a non-sustainable farming method and loss of agricultural land. This would also have an impact migration as the farming communities would have to leave in order to continue working and creating food production. There were some similarities with COP 13 as restoration of desertification was mentioned for agriculture which shows that the improvements made from COP 13 were still heavily issues in other social aspects. The restoration of the land was mainly concentrated on the health of the soil and amount of nutrients within the soil.



Figure 5: A youth perspective on food security and nutrition, (Mgxjobin, 2017).

Additional theme which was brought up within food security was the involvement of young people. This was a major theme within this topic as it was finding new ways to keep food security for the future with trying to reach the younger generations. However, one problem that kept being brought up was funding for these projects which could have been created the Green Climate Fund. This shows that there is not much of an overlap between the COP events as some of the financial benefits could have been avoided through previous COP events. The Green Climate Fund was mentioned but was mainly looked at within women empowerment and the education of indigenous community. The main point with the fund was to continue to implement the fund into the education of these projects. Another human issue with food security is with indigenous people, this is due to their land that they live upon being taken away from them through deforestation or land degradation. (CSAYN, n.d). Furthermore, one of the main phrases seen was 'food sovereignty' this means the amount of food that is allowed and the quality of the food that it made. This was seen when speaking about the indigenous people due to the land being damaged which is making it harder for indigenous people to produce and collect food. Therefore, the balance of resources for everyone and for everyone to gain equal access to these resources. Overall, COP 23 was one of the most important COP events for land use as food security and food production was not spoken much about before this COP and showed an evolution of ways to manage the land and keep the land use sustainable.

Future plans

The future plans of COP are very interesting as there were some big agreements that were very positive for land use and land management. One of these agreements was to provide "loss and damage" and to create financial support to developing countries affected by natural disasters. This had been spoken about for a decade or so but was finally agreed upon due to the increasing impacts and risks that the strengthened natural disasters pose on less developed countries. This agreement also reaffirmed that countries are still hoping to constrict the increase of global temperature to 1.5 degrees Celsius. The loss and damaged fund were established in order to create new ways that developed countries were able to help less developed countries that have had problems with land management after natural disasters. Although, the 'Loss and Damage' fund was the main agreement in helping developing countries there are still areas that will need to be changed for the next COP event. This could be finding a certain adaptation goal, concentrating directly on the financial goal or look to support countries to target emissions reduction goals. (UNFCCC, 2022). However, this might not be clear to change until the update of the fund which would take place at COP 28 and hopefully there will be changes which are made that will benefit the whole globe.

Plans to focus more on the food security was spoken about with world leader summits which shows that they plan on tackling multiple issues in the next few years in COP events and outside COP events. Also, within COP 27 there were lots of talks about different ways that climate change is affecting different communities and how they can look after the land better in order to reduce the emissions and continue with the education on sustainability. The global stockade at COP 28 will become known to all countries and will help in looking after countries after major event that have occurred within the countries. This could include deforestation or land restoration after a large natural disaster. Therefore, it will still tackle

climate change actions and hopefully help in achieving Paris agreements and SDGs such as life on land and climate action. (Staff, 2022).

The introduction of a Forest and Climate Leaders' Partnership showed that there were big improvements in the well-being of the forest and woodland areas. This partnership hopes to slow down the land degradation, deforestation and loss of forests. This partnership was signed by over 50% of all the countries that attended COP 27 which shows the importance of forest and woodlands across the globe in the tackle against climate change.

In terms of agriculture and food there were targets made to try and improve the sustainability and transform agriculture by 2030. The big stakeholders in this targets were the indigenous people, local communities and youth programmes. These stakeholders were at the fore front of trying to persuade their governments to into signing and agreeing to try and meet this target. (Issa, 2022). This is very beneficial for a lot of the plans and agreements which were created towards the end of COP, as it showed that the public eye was willing to try and support actions and make their governance try and agree to these targets. The future of land management and land use seems to be looking positive as there are aspects of each of the three main types of land area that will benefit. This is mainly down to the Loss and Damage fund as it will be able to help fund areas to regenerate after a major disaster. However, one way that was very positive was the addition of the younger generation and ways of educating other communities in ways that can help keep the land sustainable. This helps show that the decision being made and planned are benefitting everyone for the future as well as the present.

Conclusion

Land use and management is important on all scales of the COP events as it plays a big part in each area. As the land management can relate to food production in lower developed countries but it can also help in conservating woodlands in developed countries. However, in COP 27 it was the first time that there was an agriculture day which shows the positive stride for food production and food security. As well as this the food security was first mainly mentioned at COP 23 where it was outlined as a major issue especially with the increasing amount of natural disasters. This demonstrations that issues are spoken about at multiple COP events and new ways are found to deal with the issue at each event. This can work for certain areas but with food security and the growing population the COP events need to find the ways to help quite quickly. They did manage to do that at Warsaw in cop 19 as the Warsaw framework for REDD+ is still being used and developed for new areas of forest emissions. (UNFCCC, n.d). This could be as forest emissions and deforestation were easily to support with methods already in place to tackle these issues. However, the plans that were filed throughout COP 27 shows positive thinking towards tackle land management as the rainforest pact, Loss and Damage fund and the Race to Zero campaigns are show different ways to help reduce carbon emissions. (Staff, 2022).

References

- (2022) *Unfccc.int*. Available at: <https://unfccc.int/news/cop27-reaches-breakthrough-agreement-on-new-loss-and-damage-fund-for-vulnerable-countries>
- Agrawal, A., Nepstad, D. and Chhatre, A. (2011) "Reducing emissions from deforestation and forest degradation," *Annual Review of Environment and Resources*, 36(1), pp. 373–396. Available at: <https://doi.org/10.1146/annurev-environ-042009-094508>.
- *COP23: Climate action for food security* (no date) GCSAYN. Available at: <https://csaynglobal.org/cop23-un-system-climate-action-for-food-security-harvesting-adaptation-and-mitigation-benefits-in-the-land-sector-side-event/>
- *COP27: Leaders Boost Sustainable Forest Management* (2022) *Unfccc.int*. Available at: <https://unfccc.int/news/cop27-leaders-boost-sustainable-forest-management>
- *Decision 7/cop.13 the future strategic framework of the convention* (no date) *UNCCD*. Available at: https://www.unccd.int/sites/default/files/relevant-links/2018-08/cop21add1_SF_EN.pdf
- *Goat power* (no date) *Goat Power*. Available at: <https://www.farmafrica.org/special-and-social-events/goat-power>
- Gratton, G. (2022) *Cop 27: New deforestation pacts, but Lula's Win is key: Argus media, Commodity & Energy Price Benchmarks*. Available at: <https://www.argusmedia.com/en/news/2394302-cop-27-new-deforestation-pacts-but-lulas-win-is-key>
- Green Climate Fund (2021) *About GCF, Green Climate Fund*. Green Climate Fund. Available at: <https://www.greenclimate.fund/about#key-features>
- Hub, I.I.S.D.S.D.G.K. (2013) *COP 19 adopts Warsaw Framework for REDD+: News: SDG knowledge hub: IISD, SDG Knowledge Hub*. Available at: <https://sdg.iisd.org/news/cop-19-adopts-warsaw-framework-for-redd/>
- *Introduction to Land Use* (2022) *Unfccc.int*. Available at: <https://unfccc.int/topics/introduction-to-land-use>
- Issa, F. (2022) *COP27 outcome: Reflections on the progress made, opportunities missed , United Nations*. United Nations. Available at: <https://www.un.org/africarenewal/news/cop27-outcome-reflections-progress-made-opportunities-missed>
- *REDD+* (no date) *UNEP*. Available at: <https://www.unep.org/explore-topics/climate-action/what-we-do/redd>.
- Staff, C.B. (2022) *COP27: Key outcomes for food, forests, land and nature at the UN Climate Talks in Egypt, Carbon Brief*. Available at: <https://www.carbonbrief.org/cop27-key-outcomes-for-food-forests-land-and-nature-at-the-un-climate-talks-in-egypt/>
- Tempesta, T. (2015) "Benefits and costs of urban parks: a review," *Core* [Preprint]. Available at: <https://core.ac.uk/download/pdf/228543399.pdf>.
- *Warsaw Framework for REDD+* (no date) *Warsaw Framework for REDD+ - REDD+*. Available at: <https://redd.unfccc.int/fact-sheets/warsaw-framework-for-redd.html>
- Wldianto, S. and Spring, J. (2022) *Biggest Rainforest Nations form triple alliance to save jungle, Reuters*. Thomson Reuters. Available at: <https://www.reuters.com/business/cop/brazil-rainforest-nations-join-forces-save-jungle-2022-11-14/>

Image References

- El-Mofty, N. (2022) *Lula lays out a vision for Brazil and the planet at cop 27*, E&E News. Available at: <https://www.eenews.net/articles/lula-lays-out-a-vision-for-brazil-and-the-planet-at-cop-27/>
- Food and Agriculture (2020) International Institute for Sustainable Development. Available at: <https://www.iisd.org/topics/food-and-agriculture>
- 'global deforestation hotspot': 3m hectares of Australian Forest to be lost in 15 years (2018) *The Guardian*. Guardian News and Media. Available at: <https://www.theguardian.com/environment/2018/mar/05/global-deforestation-hotspot-3m-hectares-of-australian-forest-to-be-lost-in-15-years>
- Mgxjobin (2017) *Food Security and nutrition: A youth perspective*, CliM'Blog. Available at: <https://studentclimates.wordpress.com/2017/11/24/food-security-nurition-youth-perspective/>
- Woodland diversification (2022) Forest Research. Available at: <https://www.forestresearch.gov.uk/research/climate-change-adaptation/woodland-diversification/>

Land Use at Conference of Parties (COP)

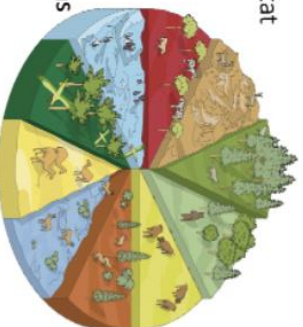
Forest and woodland

- Deforestation
- Urban parks
- Forest emission reduction
- Exposure to humans



Nature and Habitat

- Habitat loss
- Adaptation
- Ecosystems
- Wildfires
- Changing oceans



Agriculture

- Farming
- Financial agriculture and affordability
- Food security
- Greenhouse contribution
- Growing population



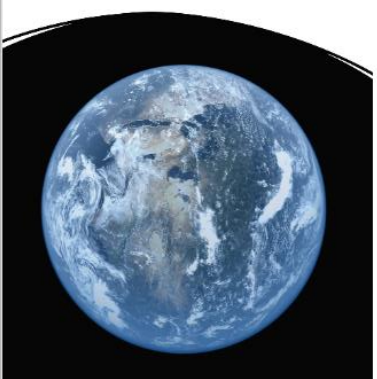
Past COP events

- COP 13 – Bali, Indonesia
- COP 19 – Warsaw, Poland
- COP 23 – Bonn, Fiji



Future plans

- Funding agreements
- Global stocktake
- Forest protection



COP 27

Disasters becoming more frequent

Country emissions

Deforestation

RACE TO ZERO

How Land use was spoken about in Cop 27

- Impacts are growing
- Becoming more frequently
- Country emissions
- Deforestation
- 'Race to zero'

RACE TO ZERO