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Landscape Game 2 Manual

Play, learn and shape a green future now!

Introduction

The Center for International Forestry Research (CIFOR) and IPB University, in collaboration with Agate Studio, have developed Landscape Game 2, an innovative tool for promoting landscape approaches and sustainable trade to the general public, including youth, practitioners, researchers and policymakers. Initially developed as a board game, it was created to help players understand the impacts of land competition dynamics and policy measures on the sustainability of a landscape. The game, which introduces players to landscape conservation, development risks, environmental services and alternative investment options, aims to provide a model through which they can quickly learn how human strategies impact a landscape mosaic where competing land uses, and both local and global trade exist (Purnomo et al. 2017). The first version of Landscape Game was developed by CIFOR in collaboration with Agate Studio during 2004–2014. Drawing inspiration from popular games like Monopoly, SimCity and American Farming, it evolved from a board game originally developed in 2008 in collaboration with CIRAD, and funded by the European Union. Due to high demand for the board game, we decided to create a digital version.

The game's landscapes, which constitute mosaics of different land cover categories that work as ecosystems, have natural characteristics (rivers, topography, vegetation, climatic conditions, etc.) as well as social, economic, cultural and political factors, and set objectives. Each one comprises numerous land blocks with different resources and development potential.

In the game, landscape sustainability is dependent on players' management efforts maintaining a balance between economic benefits, environmental conservation – as indicated by carbon credits – and land productivity. Players are expected to achieve economic benefits and land productivity up to or exceeding certain thresholds. Disasters can occur if the number of carbon credits falls below the set minimum threshold.

The challenge of the game lies in formulating a winning strategy to secure more land blocks and sell more commodities while maintaining landscape sustainability.

How to play the game

1. Players must ensure they have a stable internet connection. They must sign in using their preferred Google account.

2. The game offers single player, multiplayer and public lobby modes. Players can decide which mode they wish to use, and go to lobby settings to customize their game play preferences (reveal, action and result time limits, total turns, numbers of starting coins, landscape selection, and whether a game is open to the public). The default game setting is 10 turns; 200 starting coins; a Reveal time of 20 seconds; an Action time of two minutes; and a Result time of 25 seconds. Players can choose from eight landscape locations in which to play. Each player must use a different avatar in the lobby for a game to begin.

3. The main objective of Landscape Game 2 is to gain as many victory points as possible. Each turn during a game is divided into three phases: the Reveal Phase, Action Phase and Result Phase. The Reveal Phase page displays the player's avatar, commodities, coins and victory points, as well as the turn number. It also shows three tabs: Policy & Landscape Challenges; Commodity Demand; and Land Block Bid.
   - Under the Policy & Landscape Challenges tab, players can find out the number of carbon credits demanded by a certain government policy and three Global Landcape Challenges to win for up to five additional victory points at the end of the game.
   - The Commodity Demand tab provides information on market demand for commodities, and maximum offering prices.
   - The Land Block Bid tab shows available land blocks under three categories: Forest Core, Forest Edge and Mosaic Land. These blocks are rated from one to three stars, with higher numbers indicating greater potential, and having higher prices.

4. During the Action Phase, players can bid for land blocks, develop land blocks, sell commodities and/or comply with government policy, which is revealed in the second turn. The aim on the Action Phase is to win the most land bids and sell the most commodities while contributing carbon credits.

- Tapping the Policy button on the right will reveal the carbon credit goal for all players. Players can contribute fewer, the exact number, or more credits than the set goal. Carbon credits are mostly generated from Forest Core blocks. There are incentives for players contributing the most carbon credits, and penalties for those not contributing any at all.
- To bid for land blocks, players can tap the Bid Block button on the right, choose which block they want to place a bid on, and tap the BID button. It is advisable to bid higher than the designated block price. For example, if a block of Mosaic Land has three stars and a designated price of 30 coins, players should bid 40–50 coins to compete with others in securing the land. Players losing bids will have their coins returned for use in subsequent turns. Players receive one victory point for each bid they win.

5 When players have their blocks, they can manage and develop them to produce commodities. Tapping the Build Block button on the right, players can find their bid-won and undeveloped blocks. After development, tapping this button will allow players to see their production facilities and productivity of each facility. Players can develop different land block categories in different ways: Mosaic Land for timber logging, mining and farming; Forest Edge for ecotourism and timber logging; and Forest Core for ecotourism or generating carbon credits. Players can then sell the commodities they produce to secure coins. Development price depends on block type. A three-star rated block of Forest Core land, for example, will cost 20 coins to develop. When players click a BUILD button, then click YES, the number of coins deducted will accord with the cost of the chosen form of development. If players opt not to develop a block, they will receive the number of carbon credits and ecotourism value as listed under Undeveloped section on the left. Facilities can be developed to meet market demand.

6 When players have their own blocks producing their own commodities, they can sell them to gain coins for further land bids and commodity production. Selling successfully requires technique, timing and information about other players' blocks and commodities. For example, if another player has a timber value of 60 where market demand for timber is 40, and offers a selling price of 40 coins, it is necessary to offer a selling price below 40 to compete. Players are free to offer selling prices of one to 40 coins, but the lower the price, the more likely the sale. Tapping the Sell button on the right, players can find commodity sales in demand. They can then finalize their offers by clicking the Submit button. Players will receive one victory point for each successful sale. Players have five attempts to sell their commodities, and the potential to gain a maximum of five victory points in each turn.

7 Once players have completed carbon credit contribution, block bidding and development, and commodity sales processes, the next stage of the game is the Result Phase. This phase provides information about each player's achievements and scores from the previous Action Phase. If a carbon credit goal is achieved, the player(s) contributing the highest number of carbon credits will receive 20 coins and two victory points. However, if a carbon credit goal is not achieved, the player(s) contributing the fewest carbon credits will be penalized with a deduction of 20 coins and one victory point. The Commodity Demand tab lists the results of commodity sales offers, showing winners and the prices each player has offered. The winner with the lowest offer price receives one victory point as well as coins applicable to their offer.

8 In a similar way, the Land Block Bid tab provides information on winners of bidding for blocks, the difference being that where commodity sales winners are those offering the lowest prices, bidding winners are those placing the highest bids. This tab also provides information on blocks players have secured, how much they bid, and whether they won or lost the bid. For each successful bid, players receive one victory point.

9 The Score tab provides information on the state of game play at the end of each turn. Players can see how many victory points each player has earned, as well as their commodity stocks.

10 Landscape Game 2 also has Landscape Goal, which is common objective for all players. The goal is determined by three factors: economic benefits, carbon credits, and land productivity, each of which has its own threshold. All players must ensure none of these fall below the minimum threshold in order for their land management efforts to achieve landscape sustainability. Disasters will be triggered if the number of carbon credits falls below the minimum threshold for achieving the Landscape Goal. Such disasters disrupt gameplay, and affect players' strategic plans, with commodity production falling by 50% for those affected. Disasters will be triggered for each turn where the number of carbon credits falls below the set threshold.

11 Players can rectify disasters by contributing as many carbon credits to a policy as possible and preserving Forest Core to generate further carbon credits.

The current version of the game has several limitations and its generalizations do not fully reflect landscape conditions in the different locations.

Device requirements: Android OS Version 8.0 up to the latest (13.0), a minimum of 4 GB of RAM, and minimum free storage of 200 MB.

Available to download in specific regions only.

Acknowledgements

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Project website

For further information please visit our website **visit www.landscapegame.org.**

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