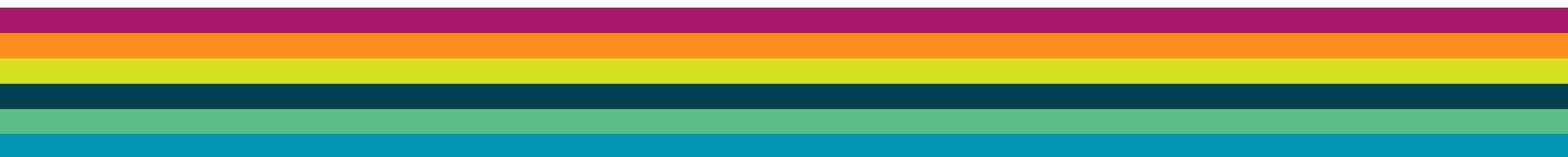




Magnitude

UNDERSTANDING THE ROLE OF DISASTER RISK MANAGEMENT
IN NATIONAL DEVELOPMENT THROUGH COLLABORATIVE GAMEPLAY





United Nations

PARSONS THE NEW SCHOOL FOR DESIGN



**Humanitarian
Design
Lab**



CREDITS

Game Design

Benjamin Norskov

Lien Tran

Michelle Jackson

Visual Design & Layout

Hannah Lea Dykast

Parsons Faculty Advisors

Mathan Ratinam

Nigel Snoad

UNISDR Representatives

Bina Desai

Julio Serje

A collaborative effort between Parsons The New School for Design and UNISDR © 2011.

www.parsons.edu

www.unisdr.org



TABLE OF CONTENTS

1 Introduction *p. 01*

- ## **2** Rules
- 2.1** Overview *p. 02*
 - 2.2** Object of Game *p. 02*
 - 2.3** Regular & advanced version *p. 02*
 - 2.4** Game setup *p. 03 – 05*
 - 2.5** How to play *p. 07 – 13*

- ## **3** Game components
- 3.1** Inventory *p. 07 – 13*
 - 3.2** Card sets *see p. 15*
 - 3.3** Gameboard *see p. 15*
 - 3.4** Scoreboard Regular & Advanced *see p. 15*
 - 3.5** Money *see p. 15*

1 INTRODUCTION



Magnitude

Magnitude is a cooperative board game designed by students at Parsons The New School for Design. The game was created in partnership with UNISDR as part of its 2011 Global Assessment Report (GAR) on disaster risk management. Magnitude debuted at the GAR's launch in Geneva, Switzerland, in May 2011.

Magnitude simulates the role disaster risk management plays in a nation's development. This game is suitable for adults and students age 13+. In 2000, 189 nations made a promise to free

people from extreme poverty and multiple deprivations. Nations pledged to achieve the eight Millennium Development Goals by 2015. In September 2010, the world re-committed itself to accelerate progress towards these goals. In Magnitude, it is the players' collective goal to achieve this same pledge.

The game requires at least one team of 4 players who can choose to play either the regular or advanced version. The game can also be played by larger groups of people, for example

at conferences. Any number of teams of 4 can compete against each other to have the most points at the end of the game and claim their nation as the most developed nation.

Each group of 4 needs one Magnitude game set. They can use the fully published version or can create a set by cutting out and gluing together game components from the PDF available from the GAR11 website - <http://www.preventionweb.net/english/hyogo/gar/2011/en/home/index.html>.

2 RULES

2.1 GAME OVERVIEW

It's been 5 years since the 2000 launch of the U.N. Millennium Development Goals (MDGs). Your nation's head of state realizes that your country is behind on the planning and progress towards these goals. She tasks you along with 3 other national ministers to implement a plan to maximize your nation's achievements towards all 8 MDGs by the target year of 2015. Your team of 4 needs to work together as you have a lot of work to do over the next 10 years. Good luck!

TERMINOLOGY

Millennium Development Goals (MDGs)
The UNDP describes MDGs in the following way:
"Adopted by world leaders in the year 2000 and set to be achieved by 2015, the Millennium Development Goals (MDGs) provide concrete, numerical benchmarks for tackling extreme poverty in its many dimensions."

Disaster Risk Management (DRM)
The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

2.2 OBJECT OF THE GAME

To have the most points - determined by the number of MDG cards achieved - at the end of the game. Your nation's score out of a maximum of 48 is an indicator of how well your nation is developed.

2.3 REGULAR AND ADVANCED VERSION

Two versions of the game are included. You can choose to play either version. The regular version is more simplified and should take about 30-40 minutes to play once the rules have been read. The advanced version adds Global Initiative cards which add more challenging play and therefore could take about 45-50 minutes.

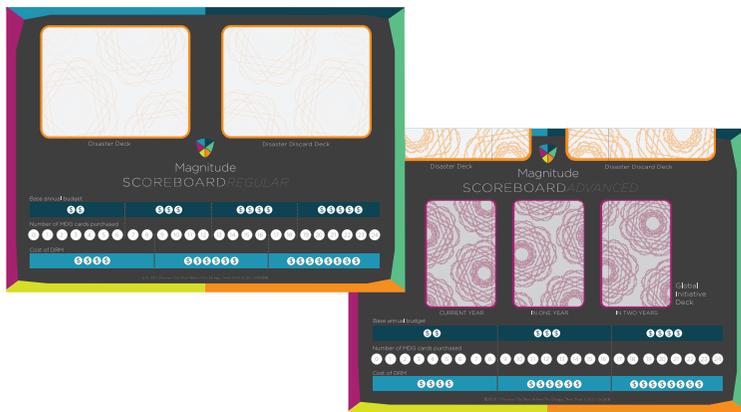
2 RULES

2.4 GAME SETUP

Boards

Place the big gameboard and smaller scoreboard where all members of the nation can see.

- If you are playing the *regular version*, use the side of the scoreboard without the pink rectangles.
- If you are playing the *advanced version*, use the side of the scoreboard with the three pink rectangles in the middle.



*Above Left: Regular side of scoreboard.
Above Right: Advanced side of scoreboard.*

Nation Profile

Shuffle all 5 nation profile cards, pick one, and place it face up in the middle of the game board.

This card establishes your nation's disaster profile for the length of a game; the two disasters shown on the card are the disasters to which your nation is susceptible.

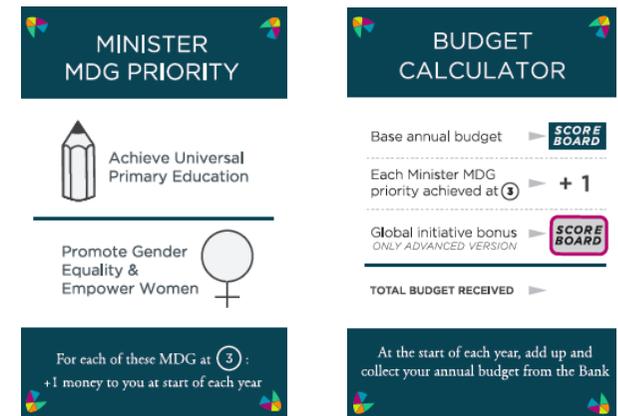
Set aside the rest of the nation cards, you will not need these for the rest of the game.



This nation is affected by Hurricane and Drought disasters.

Minister MDG Priority/ Budget Calculator

Each player receives one of the minister MDG priority cards. These can be chosen or randomly drawn by players. A player can look at his card and see his two MDG priorities on one side and the Budget Calculator on the back.



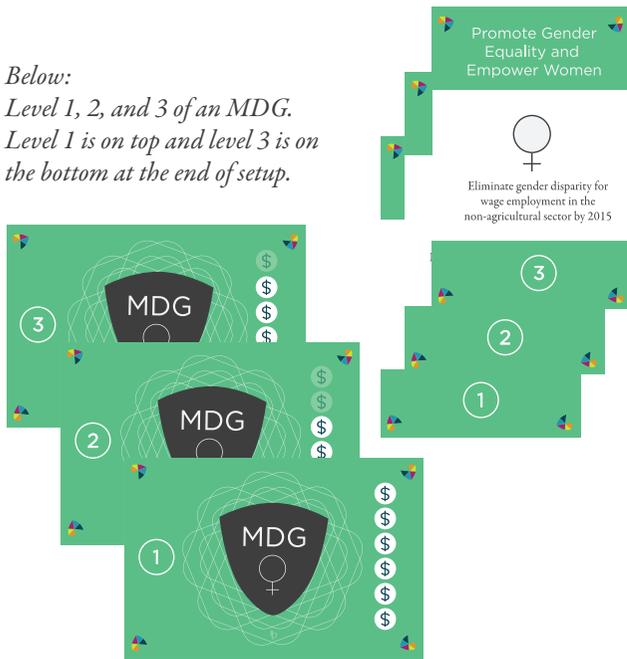
The budget calculator helps each minister determine how much money to collect at the start of each year. The base annual budget can be found on the scoreboard each year. The "Global initiative bonus" is added only if the team is playing the advanced version of the game.

2 RULES

2.4 GAME SETUP *(continued)*

Millennium Development Goals

*Below:
Level 1, 2, and 3 of an MDG.
Level 1 is on top and level 3 is on
the bottom at the end of setup.*



*Above Right: MDGs stacked
as they are purchased.*

The 8 United Nations Millennium Development Goals (MDGs) are:

- Eradicate Extreme Poverty and Hunger
- Achieve Universal Primary Education
- Promote Gender Equality and Empower Women
- Reduce Child Mortality
- Improve Maternal Health
- Combat HIV/AIDS, Malaria, and Other Diseases
- Ensure Environmental Stability
- Develop a Global Partnership for Development

For each of the 8 MDGs, find its Level 1, 2, and 3 cards, and stack the 3 cards face down with Level 1 on top and Level 3 on the bottom. Place these cards on the main game board in the horizontal box under the matching MDG icon.

Disaster Risk Management

Place each DRM card face up on the board in the DRM box which matches the card's category name. A card's DRM category name is at the bottom of each Disaster Risk Management (DRM).

The three DRM categories are:

- Take Responsibility (3 cards)
- Integrate DRM into Development (4 cards)
- Build Risk Governance (4 cards)



*Above: This card belongs in the
"Build Risk Governance"
box on the board.*

2 RULES

2.4 GAME SETUP (continued)

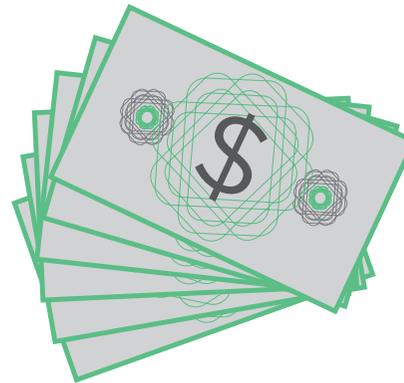
Global Initiatives (Advanced Version Only)

Shuffle the Global Initiative Deck and place the deck face up on the scoreboard in the “In Two Years” box. Move the top card to the “In One Year” space on the scoreboard.



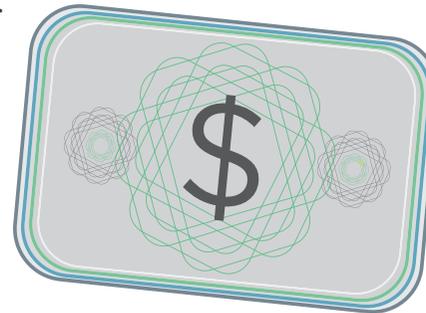
Annual Budget

All ministers receive 6 money pieces as their first year budget. See “Collect Annual Ministry Budget” under “How to Play” to learn more about future annual budgets.



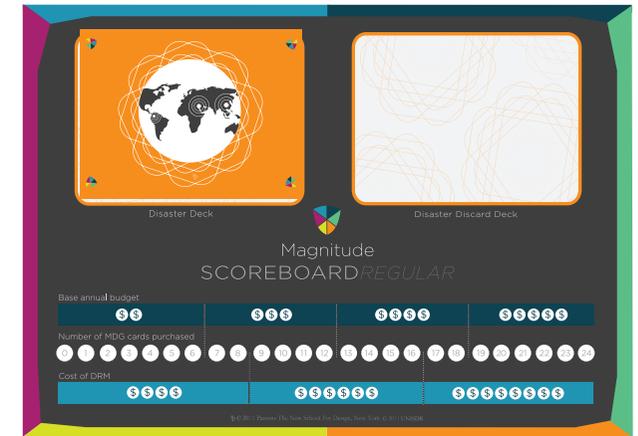
The Bank

Stack the money pieces in the designated “Bank” area on the board.



Disaster Cards

Shuffle the orange Disaster Cards and place them face down on the scoreboard in the top left “Disaster Deck” box.



2 RULES

2.4 GAME SETUP (continued)



This is the main gameboard after setup is complete.

2 RULES

2.5 HOW TO PLAY

Setting

The game starts in 2006, and each round represents a calendar year. There are 10 rounds ending with the year 2015. The game is over the round after the last disaster card is revealed.

The following game phases should be completed in this order for each round (also called a year):

- a) Collect Base Annual Budget
- b) Make Ministry Investments
- c) Determine Disaster Effect
- d) Reveal Global Initiatives
(advanced version only)

a) Collect Base Annual Budget

All ministers start the first round with 6 money.

After the first year all ministers collect their base annual budget at the beginning of each turn. To determine the annual budgets:

1. Count the total number of MDG cards purchased (number of cards in the white octagon in the middle of the game board).
2. Place the MDG marker on the white circle marked with this same number under “Number of MDG cards purchased” on the score board. (Place the marker on zero if starting the first round.)
3. Each minister collects the corresponding budget as delineated by a dotted line on the scoreboard.



Left: Here is part of the regular scoreboard (advanced version has different increments). If there are 8 cards inside the white octagon on the game board at the start of the round then the “number of MDG cards purchased” is 8, and all ministers receive 3 money at the start of the round plus any other bonuses earned (as listed on the Budget Calculator).

2 RULES

2.5 HOW TO PLAY *(continued)*

Minister MDG Priority Bonus

Each Minister has two specific Millennium Development Goals which earn her extra money. These MDG priorities are listed on a player's "Minister MDG Priority" card.

If one of a minister's priority MDGs is achieved to Level 3 (therefore all 3 of that MDG's cards are purchased) at the start of the current round then that minister gets one bonus money piece. If both priority MDGs are achieved to Level 3 then that minister gets two bonus money pieces.

Money can never be shared between ministers, and each card purchase must be paid for by one minister only. Therefore a minister must have enough money at the time to purchase MDG and DRM cards.

Advanced version: Players may also obtain additional money depending on the Global Initiative card found on the scoreboard in the "Current Year" box. Read the Global Initiative cards as they are revealed in order to plan and maximize your investments.



*Example of Minister MDG
Priority in action:*

If either the "Achieve Universal Primary Education" MDG or the "Promote Gender Equality & Empower Women" MDG is fully achieved (purchased to Level 3) at the start of a year, this minister receives one extra units of money that year.

If both of these MDGs are fully achieved at the start of a year, this minister receives two extra units of money that year.

b) Make Ministry Investment

Ministers may invest in any order. In each round each minister can do one of the following:

1. Purchase as many MDG and DRM cards as she can afford and wishes to purchase.
2. Purchase nothing and spend her turn fundraising instead. (See "Fundraising" callout.)

Purchasing Millennium Development Goal Cards

- Nations must buy the first level of a MDG before buying the second level of that MDG. The second level of a MDG must be purchased before buying the third.
- Money used to purchase a MDG card goes back to the Bank.
- Purchased MDG cards are flipped up and stacked in its corresponding MDG box inside the middle white octagon of the gameboard.



Above: Price of an MDG card is marked on right of the back of the card; Level 1 of an MDG costs 6, Level 2 costs 4, and Level 3 costs 5.

2 RULES

2.5 HOW TO PLAY *(continued)*

Purchasing a Disaster Risk Management Card

A minister can read any of the DRM cards at any time and can purchase any DRM card if she has enough money. The cost of a DRM card depends on the nation's Millennium Development Goal development at the start of the round and can be determined by looking at the MDG marker on the score board and by finding the corresponding "Cost of DRM" delineated with a dotted line.

Below:

The total number of MDGs achieved at the start of this round is 12, so DRM cards cost 6. (This image is from regular scoreboard.)

Money used to purchase a DRM card goes back to the Bank. The player who purchased the DRM card takes the DRM card off the board and keeps it.

Fundraising

A player may spend her turn fundraising. If she does, she receives one money piece but may not invest in MDGs or DRM that round.



2 RULES

2.5 HOW TO PLAY (*continued*)

c) Reveal Annual Disaster

After each minister has made her investments for that year, the last minister to invest counts the number of MDG cards purchased (number of cards in the white octagon on the game board) and moves the MDG marker on the score board to the circle with the corresponding number. This minister then flips over the top disaster card from the left “Disaster Deck” and places it face up in the right “Disaster Discard Deck” to reveal whether a disaster struck your nation that year.

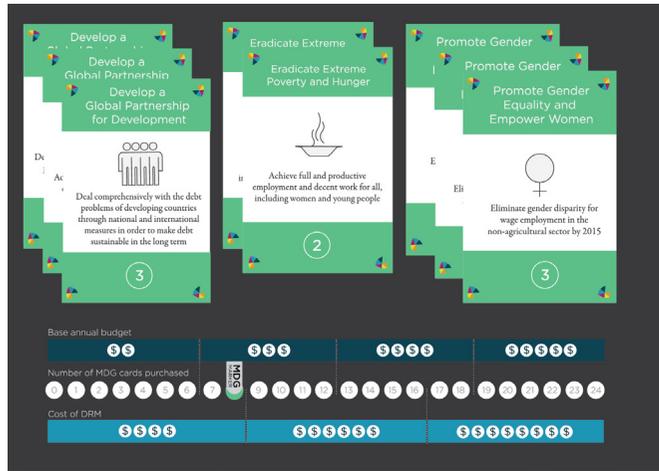
- If the disaster matches one of the disasters listed on your nation profile card then the disaster potentially could affect your purchased Millennium Development Goal cards. You must continue on to “Determine Disaster Effect.”
- If the disaster does not match one of the disaster icons on the nation profile card which was placed in the center of the board then your nation is safe. This round is over, and you may continue on to the next round.

d) Determine Disaster Effect

- Take the number of MDG cards purchased (marked by the MDG marker), find the corresponding number range in the “MDG cards purchased” column of the disaster card and then find the corresponding “MDG at risk” value in the column to its right.
- If the number of DRM cards purchased is more than or equal to the “MDG at risk” value then no MDG cards are affected.
- If the number of DRM cards purchased is less, take the “MDG at risk” value, and subtract the number of DRM cards your nation has purchased. This remaining number is how many MDG cards your nation loses as a result of the disaster. Choose which cards to lose, turn each over, and return it to its horizontal MDG box outside the white octagon. These MDG cards now have to be purchased again to count towards your MDG achievement.

2 RULES

2.5 HOW TO PLAY (continued)



Above: This nation has a total of 8 MDG cards purchased this year.

Right: Disaster card used in this example.

Example of Disaster Effect:

Find the number 8 in the “MDG Cards Purchased” column of the disaster graph, and find the corresponding “MDG at risk” value.

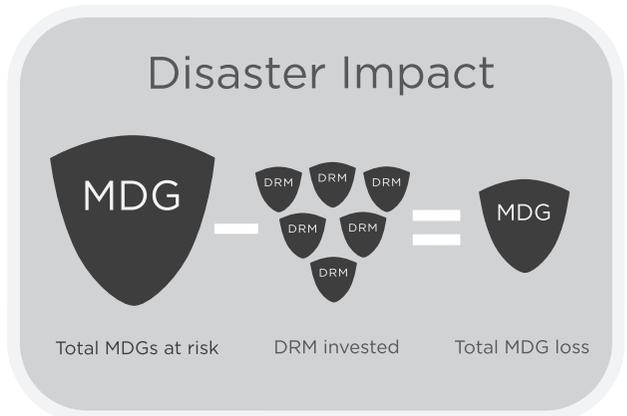
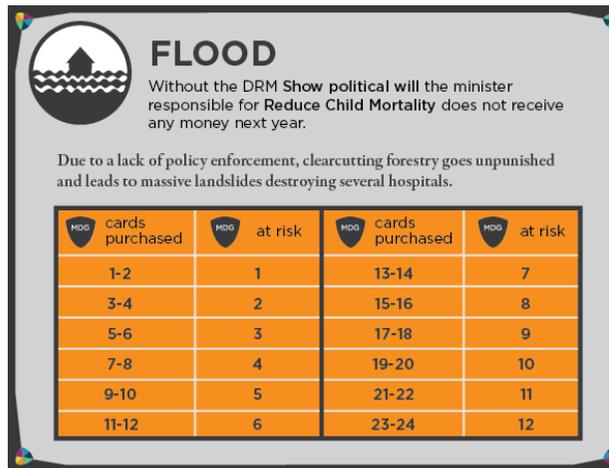
The nation’s total MDGs at risk is 4. If one of the ministers had purchased one DRM card, it would reduce the actual MDG loss by 1, and the nation would have to remove 3 MDGs (4 minus 1).

Also if the nation had not purchased the DRM “Show political will” yet then the minister responsible for “Reduce Child Mortality” would

receive no money the following term.

In summary: the number of MDG cards you could potentially lose (“MDG at risk” on the disaster card) minus the number of DRM cards your nation has invested equals the number of MDG cards your team actually loses. Each DRM card protects one MDG card.

A nation never loses any Disaster Risk Management cards it has purchased even if the cards were used to protect against a disaster.



2 RULES

2.5 HOW TO PLAY *(continued)*

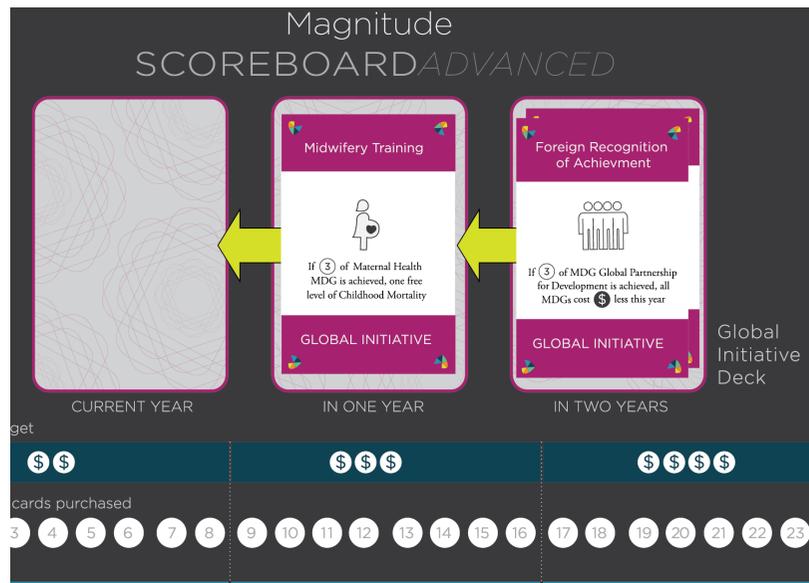
Reveal Global Initiatives (Advanced version only)

The Global Initiative cards give you a variety of bonuses, and careful planning can maximize your investments.

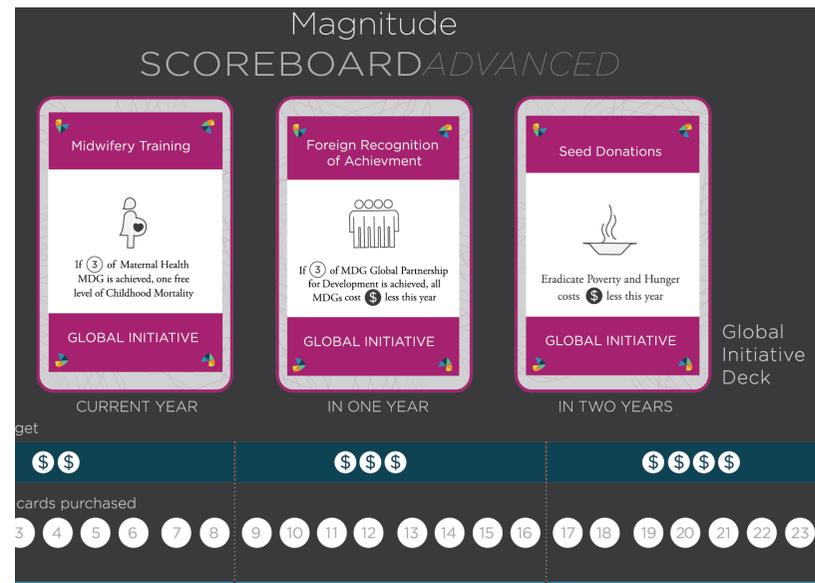
At the end of each round:

1. Move the card that is in “In One Year” to the top of the “Current Year” stack.
2. Move the card that on top of “In Two Years” deck to the “In One Year” space.

The card on top of the “Current Year” stack will affect the upcoming round.



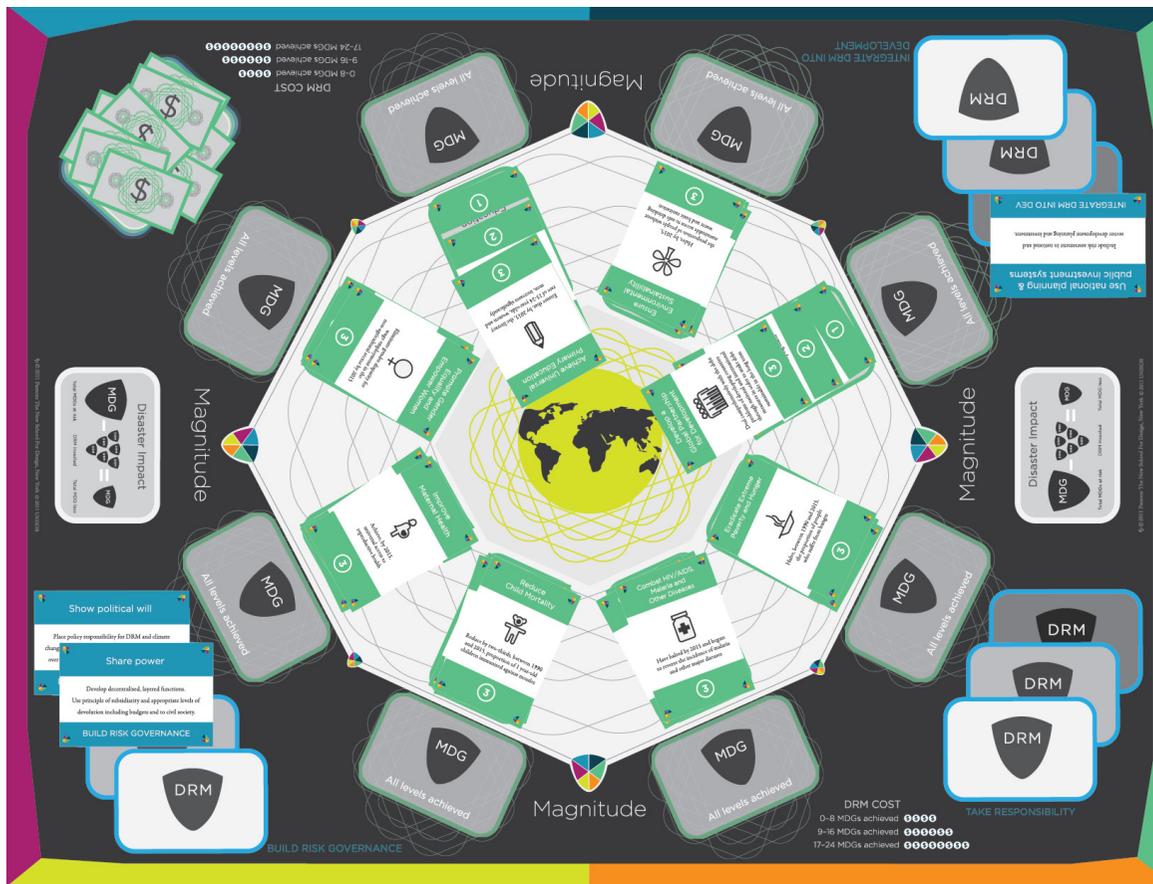
Above: The scoreboard during the first year of the advanced version of the game.



Above: The scoreboard at the start of the second year.

2 RULES

2.5 HOW TO PLAY (continued)



This is the main gameboard after the game is completed.

The End of the Game

The game is over the year *after* the last disaster card is revealed. Players get to make final purchases. After each player has taken her turn, the nation then counts up the number of development points they have achieved as follows:

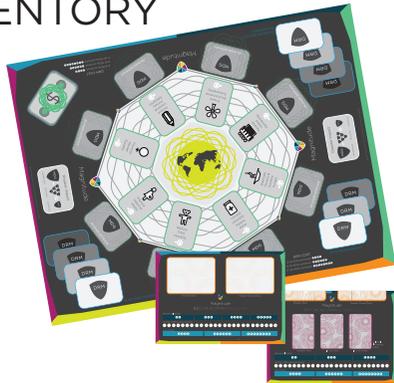
- Each level 1 MDG card achieved = 1 points
- Each level 2 MDG cards achieved = 2 points
- Each level 3 MDG cards achieved = 3 points
- Each MDG with no levels achieved = subtract 3 points

Each completed Millennium Development Goal (Level 1, 2, and 3 all achieved) is 6 points total.

If all MDG cards are purchased, your nation receives the maximum 48 development points.

3 GAME COMPONENTS

3.1 INVENTORY



- 4** players
- 1** main gameboard
- 1** two-sided scoreboard
(regular side and advanced side)
- 1** MDG marker
- 50** money pieces
(or your own game chips)
- 4** Minister MDG Priority / Budget Calculator cards
(dark teal)
- 5** Nation Profile cards
(yellow green)
- 24** Millennium Development Goal (MDG) cards - 3 for each of 8 MDGs
(green)

- 3** Disaster Risk Management “Take Responsibility” cards
(blue)
- 4** Disaster Risk Management “Integrate DRM into Development” cards
(blue)
- 4** Disaster Risk Management “Build Risk Governance” cards
(blue)
- 9** Disaster cards
(orange & gray, large)
- 11** Global Initiative cards - for advanced version only
(pink)



3 GAME COMPONENTS

The following documents are arranged in this order from now on.



Print out the pages with a regular color (preferred) printer and no page scaling.



Then cut & glue back to back where indicated. Happy gaming!

3.2 CARD SETS

3.3 GAMEBOARD

3.4 SCOREBOARD REGULAR & ADVANCED

3.5 MONEY



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back

Promote Gender
Equality and
Empower Women



Eliminate gender disparity in all
levels of education by 2015



2

Promote Gender
Equality and
Empower Women

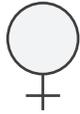


Eliminate gender disparity for
wage employment in the
non-agricultural sector by 2015



3

Promote Gender
Equality and
Empower Women



Eliminate gender disparity in
primary and secondary
education by 2005

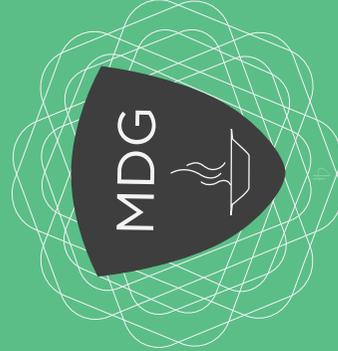


1

Eradicate Extreme
Poverty and Hunger



Halve, between 1990 and 2015,
the proportion of people whose
income is less than one dollar a day



1

Eradicate Extreme
Poverty and Hunger



Achieve full and productive
employment and decent work for all,
including women and young people

2

2



Magnitude
GAME CARD SET

Millennium Development Goals

I



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back

Develop a
Global Partnership
for Development



Develop a
Global Partnership
for Development



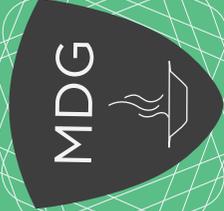
Eradicate Extreme
Poverty and Hunger



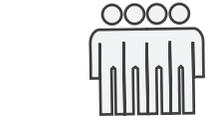
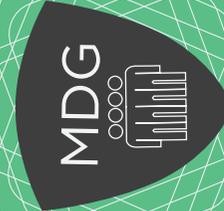
Develop a
Global Partnership
for Development



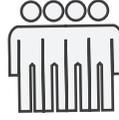
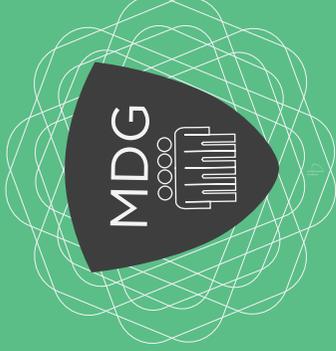
Halve, between 1990 and 2015,
the proportion of people
who suffer from hunger



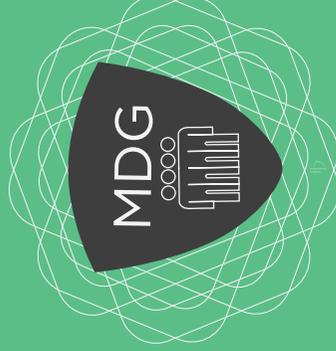
Address the special needs of the least
developed countries, landlocked
developing countries and small
island developing States



Develop further an open, rule-based,
predictable, non-discriminatory
trading and financial system



Deal comprehensively with the debt
problems of developing countries
through national and international
measures in order to make debt
sustainable in the long term



Improve
Maternal Health



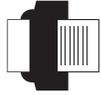
Reduce by three quarters,
between 1990 and 2015,
the maternal mortality ratio



Magnitude
GAME CARD SET



Millennium Development Goals
II



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back

Improve
Maternal Health



Achieve, by 2015,
universal access to
reproductive health

3



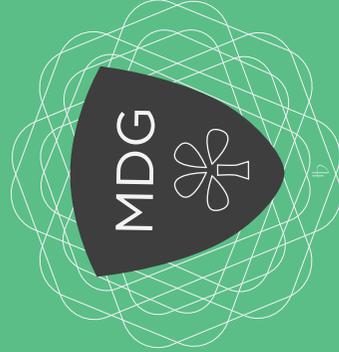
3

Ensure
Environmental
Sustainability



Reduce biodiversity loss,
achieving, by 2010, a significant
reduction in the rate of loss

2



2

Improve
Maternal Health



Reduce by three quarters, between
1990 and 2015, proportion of births
attended by skilled health personnel

2



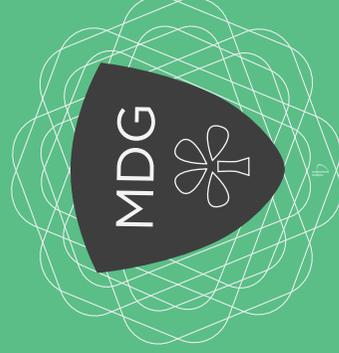
2

Ensure
Environmental
Sustainability



Integrate the principles of
sustainable development into
country policies and programmes
and reverse the loss of
environmental resources

1



1

Ensure
Environmental
Sustainability



Halve, by 2015,
the proportion of people without
sustainable access to safe drinking
water and basic sanitation

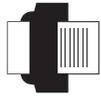
3

2



Magnitude
GAME CARD SET

Millennium Development Goals
III



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back

Achieve Universal Primary Education



Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

2



2

Combat HIV/AIDS, Malaria and Other Diseases



Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it

1



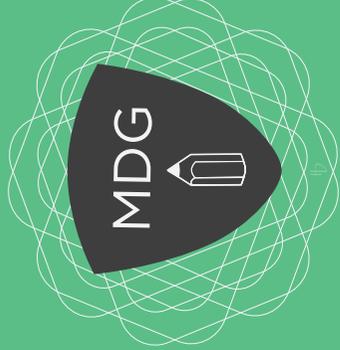
1

Achieve Universal Primary Education



Ensure that, by 2015, proportion of pupils starting grade 1 who reach last grade of primary schooling increases significantly

1



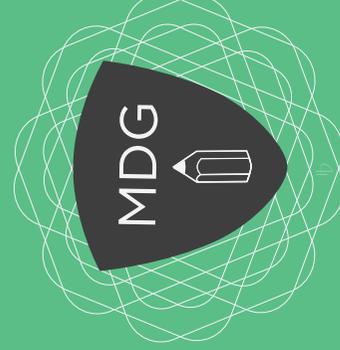
1

Achieve Universal Primary Education



Ensure that, by 2015, the literacy rate of 15-24 year-olds, women and men, increases significantly

3



3

Combat HIV/AIDS, Malaria and Other Diseases



Have halted by 2015 and begun to reverse the spread of HIV/AIDS

2



2



Magnitude GAME CARD SET

Millennium Development Goals
IV

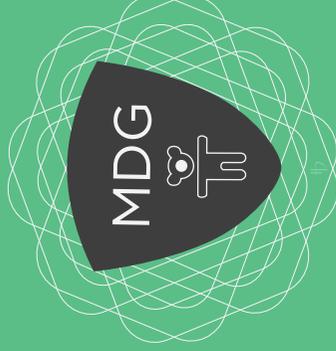


Reduce Child Mortality



Reduce by two-thirds, between 1990 and 2015, the infant mortality rate

1



1

Reduce Child Mortality



Reduce by two-thirds, between 1990 and 2015, proportion of 1 year-old children immunised against measles

3



3

Combat HIV/AIDS, Malaria and Other Diseases



Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

3



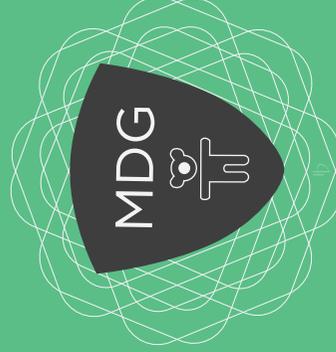
3

Reduce Child Mortality



Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

2



2

fold & glue back to back

cut along dotted lines

fold & glue back to back

cut along dotted lines and use on scoreboard



Magnitude
GAME CARD SET

Millennium Development Goals
V

Seed Donations

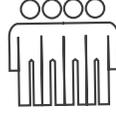


Eradicate Poverty and Hunger costs \$ less this year



GLOBAL INITIATIVE

Foreign Recognition of Achievement



If 3 of MDG Global Partnership for Development is achieved, all MDGs cost \$ less this year



GLOBAL INITIATIVE

Midwifery Training



If 3 of Maternal Health MDG is achieved, one free level of Childhood Mortality



GLOBAL INITIATIVE

Funding for Immunizations



MDG Childhood Mortality costs \$ less



GLOBAL INITIATIVE



Magnitude
GAME CARD SET

Global Initiatives

I



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back

Sell Excess HIV Drugs



If 3 of "Combat HIV/AIDS, Malaria and Other Diseases" is achieved, each minister receives \$ \$

GLOBAL INITIATIVE



Ensure Environmental Sustainability



If **3** of MDG Environmental Sustainability is achieved, receive the DRM "Protect Ecosystems" for free



GLOBAL INITIATIVE

Scientific Breakthrough

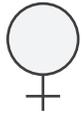


\$ to all ministers for each level of Universal Primary Education achieved



GLOBAL INITIATIVE

World Women's Conference



If **3** of MDG Gender Equality is achieved, each minister receives **\$ \$** more & receives the DRM "Protect Ecosystems" for free



GLOBAL INITIATIVE

UN Progress Report



\$ to all ministers for every 2 MDG with level **2** achieved



GLOBAL INITIATIVE



Magnitude
GAME CARD SET

Global Initiatives
II



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back



NATION PROFILE

Flood



Earthquake



Your nation is susceptible to these disasters. You are not affected by tsunami, hurricanes, or droughts.

fold & glue
back to back

NATION PROFILE

Hurricane



Tsunami



Your nation is susceptible to these disasters. You are not affected by earthquakes, floods, or droughts.

cut along
dotted lines

fold & glue
back to back

NATION PROFILE

Flood



Tsunami



Your nation is susceptible to these disasters. You are not affected by earthquakes, hurricanes, or droughts.

NATION PROFILE

Earthquake



Drought



Your nation is susceptible to these disasters. You are not affected by floods, hurricanes, or tsunamis.

NATION PROFILE

Hurricane



Drought



Your nation is susceptible to these disasters. You are not affected by earthquakes, floods, or tsunamis.



Magnitude

GAME CARD SET

Nation Profiles

BUDGET CALCULATOR

Base annual budget 

Each Minister MDG priority achieved at ③ $+ 1$

Global initiative bonus 
ONLY ADVANCED VERSION

TOTAL BUDGET RECEIVED 



Combat HIV/AIDS,
Malaria and Other
Diseases



Eradicate Extreme
Poverty & Hunger

At the start of each year, add up and collect your annual budget from the Bank

For each of these MDG at ③ :
 $+1$ money to you at start of each year

BUDGET CALCULATOR

Base annual budget 

Each Minister MDG priority achieved at ③ $+ 1$

Global initiative bonus 
ONLY ADVANCED VERSION

TOTAL BUDGET RECEIVED 



Reduce Child
Mortality

Improve
Maternal
Health



At the start of each year, add up and collect your annual budget from the Bank

For each of these MDG at ③ :
 $+1$ money to you at start of each year

BUDGET CALCULATOR

Base annual budget 

Each Minister MDG priority achieved at ③ $+ 1$

Global initiative bonus 
ONLY ADVANCED VERSION

TOTAL BUDGET RECEIVED 



Ensure
Environmental
Sustainability



Develop Global
Partnership for
Development

At the start of each year, add up and collect your annual budget from the Bank

For each of these MDG at ③ :
 $+1$ money to you at start of each year

BUDGET CALCULATOR

Base annual budget 

Each Minister MDG priority achieved at ③ $+ 1$

Global initiative bonus 
ONLY ADVANCED VERSION

TOTAL BUDGET RECEIVED 



Achieve Universal
Primary Education

Promote Gender
Equality &
Empower Women



At the start of each year, add up and collect your annual budget from the Bank

For each of these MDG at ③ :
 $+1$ money to you at start of each year

MINISTER MDG PRIORITY



Achieve Universal
Primary Education



Promote Gender
Equality &
Empower Women

BUDGET CALCULATOR

Base annual budget 

Each Minister MDG priority achieved at ③ $+ 1$

Global initiative bonus 
ONLY ADVANCED VERSION

TOTAL BUDGET RECEIVED 

At the start of each year, add up and collect your annual budget from the Bank

For each of these MDG at ③ :
 $+1$ money to you at start of each year



Magnitude
GAME CARD SET

Minister MDG Priorities &
Budget Calculator



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back



Invest in risk reduction

Use cost-benefit analysis to target the risks which can be most effectively reduced and produce positive economic and social benefits.

Anticipate & share risks that cannot be reduced

Invest in risk transfer to protect against catastrophic loss. Anticipate and prepare for emerging risks that cannot be modelled.

TAKE RESPONSIBILITY



Develop inventory system

Develop a national disaster inventory system to systematically monitor losses and assess risks at all scales using probabilistic models.

TAKE RESPONSIBILITY



Use national planning & public investment systems

Include risk assessment in national and sector development planning and investment.

TAKE RESPONSIBILITY



INTEGRATE DRM INTO DEV



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back



Magnitude

GAME CARD SET

Disaster Risk Management



Offer social protection

Adapt conditional cash transfer and temporary employment schemes. Bundle micro-insurance and loans. Consider social floor and poverty line.

INTEGRATE DRM INTO DEV



Protect ecosystems

Employ participatory valuation and management of ecosystem services and mainstreaming of ecosystem approaches in DRM.

INTEGRATE DRM INTO DEV



Regulate urban and local development

Use participatory planning and budgeting to upgrade informal settlements, allocate land and promote safe building.

INTEGRATE DRM INTO DEV



Foster partnership

Adopt a new culture of public administration supportive of local initiative and based on partnerships between government and civil society.

BUILD RISK GOVERNANCE



fold & glue
back to back

cut along
dotted lines

fold & glue
back to back



Magnitude

GAME CARD SET

Disaster Risk Management

II



Show political will

Place policy responsibility for DRM and climate change adaptation in a ministry with political authority over national development planning and investment.

BUILD RISK GOVERNANCE



fold & glue
back to back

Share power

Develop decentralised, layered functions.
Use principle of subsidiarity and appropriate levels of devolution including budgets and to civil society.

BUILD RISK GOVERNANCE



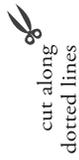
Be accountable

Ensure social accountability through increased public information and transparency.
Use performance-based budgeting and rewards.

BUILD RISK GOVERNANCE



fold & glue
back to back



cut along
dotted lines



Magnitude

GAME CARD SET



TSUNAMI

Without the DRM **Be accountable** your nation loses one extra MDG.

Your nation's low-elevation inland areas were not informed of their risk of a tsunami, and they are inundated with water and debris.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-2	1	14	9
3-4	2	15-16	10
5	3	17	11
6-7	4	18-19	12
8	5	20	13
9-10	6	21-22	14
11	7	23	15
12-13	8	24	16



EARTHQUAKE

Without the DRM **Regulate urban and local development** your nation loses one level of **Achieve Universal Primary Education**.

Lax building codes lead to thousands of schools being destroyed.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-3	1	13-15	5
4-6	2	16-18	6
7-9	3	19-21	7
10-12	4	22-24	8

cut along
dotted lines

fold & glue
back to back



Magnitude

GAME CARD SET

Disaster Decks

I



HURRICANE

Without the DRM **Anticipate and share risks that cannot be reduced** the minister responsible for **Promote Gender Equality** does not receive any money next year.

A lack of adequate risk modeling forces girls to leave school and join the workforce to help provide for their household.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-2	1	13-14	7
3-4	2	15-16	8
5-6	3	17-18	9
7-8	4	19-20	10
9-10	5	21-22	11
11-12	6	23-24	12



EARTHQUAKE

Without the DRM **Invest in risk reduction** your nation loses one level of **Reduce Child Mortality**.

Child immunization programs were disrupted by the earthquake.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-2	1	13-14	7
3-4	2	15-16	8
5-6	3	17-18	9
7-8	4	19-20	10
9-10	5	21-22	11
11-12	6	23-24	12



cut along
dotted lines

fold & glue
back to back



Magnitude

GAME CARD SET

Disaster Decks

II



HURRICANE

Without the DRM **Foster partnership** your nation loses one level of **Develop a Global Partnership**.

Your nation had extra resources allocated in the event of a hurricane, but miscommunication prevents proper deployment and they go to waste.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-3	1	13-15	5
4-6	2	16-18	6
7-9	3	19-21	7
10-12	4	22-24	8



DROUGHT

Without the DRM **Offer social protection** your nation loses one level of **Eradicate Extreme Poverty and Hunger**.

Limited access and knowledge about index drought insurance leave thousands of people without food.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-3	1	13-15	5
4-6	2	16-18	6
7-9	3	19-21	7
10-12	4	22-24	8

fold & glue
back to back

cut along
dotted lines



Magnitude

GAME CARD SET

Disaster Decks

III



FLOOD

Without the DRM **Develop inventory system** your nation loses one level of **Combat Malaria, HIV/AIDS and Other Diseases**.

Unaccounted for clogged drains increase mosquito breeding grounds.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-3	1	13-15	5
4-6	2	16-18	6
7-9	3	19-21	7
10-12	4	22-24	8



FLOOD

Without the DRM **Show political will** the minister responsible for **Reduce Child Mortality** does not receive any money next year.

Due to a lack of policy enforcement, clearcutting forestry goes unpunished and leads to massive landslides destroying several hospitals.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-2	1	13-14	7
3-4	2	15-16	8
5-6	3	17-18	9
7-8	4	19-20	10
9-10	5	21-22	11
11-12	6	23-24	12

fold & glue
back to back



Magnitude

GAME CARD SET

Disaster Decks
IV



cut along
dotted lines



DROUGHT

Without the DRM Use **national planning and public investment systems** the minister responsible for **Environmental Sustainability** does not receive any money next year.

Limited water resources were not taken into consideration when planning agricultural irrigation.

MDG cards purchased	MDG at risk	MDG cards purchased	MDG at risk
1-2	1	13-14	7
3-4	2	15-16	8
5-6	3	17-18	9
7-8	4	19-20	10
9-10	5	21-22	11
11-12	6	23-24	12



GOOD LUCK !

fold & glue
back to back



Magnitude

GAME CARD SET

Disaster Decks

V

cut along
dotted lines



1 |

Cut out each tile inclusive flaps and glue together to receive main gameboard.



Magnitude
GAMEBOARD

The main gameboard layout features a large central tile with a grey background, a large black dollar sign (\$), and a green atomic symbol. This central tile is surrounded by a blue and green border. To the right of the central tile is a score table titled "DRM COST" with three rows of dollar signs representing scores. Below the central tile is another tile with the text "All levels ad". The entire layout is enclosed in a dashed line with "GLUE HERE" labels at the bottom and right corners.

Score	MDGs achieved
17-24	MDGs achieved
9-16	MDGs achieved
0-8	MDGs achieved

DRM COST

17-24 MDGs achieved

9-16 MDGs achieved

0-8 MDGs achieved

All levels ad

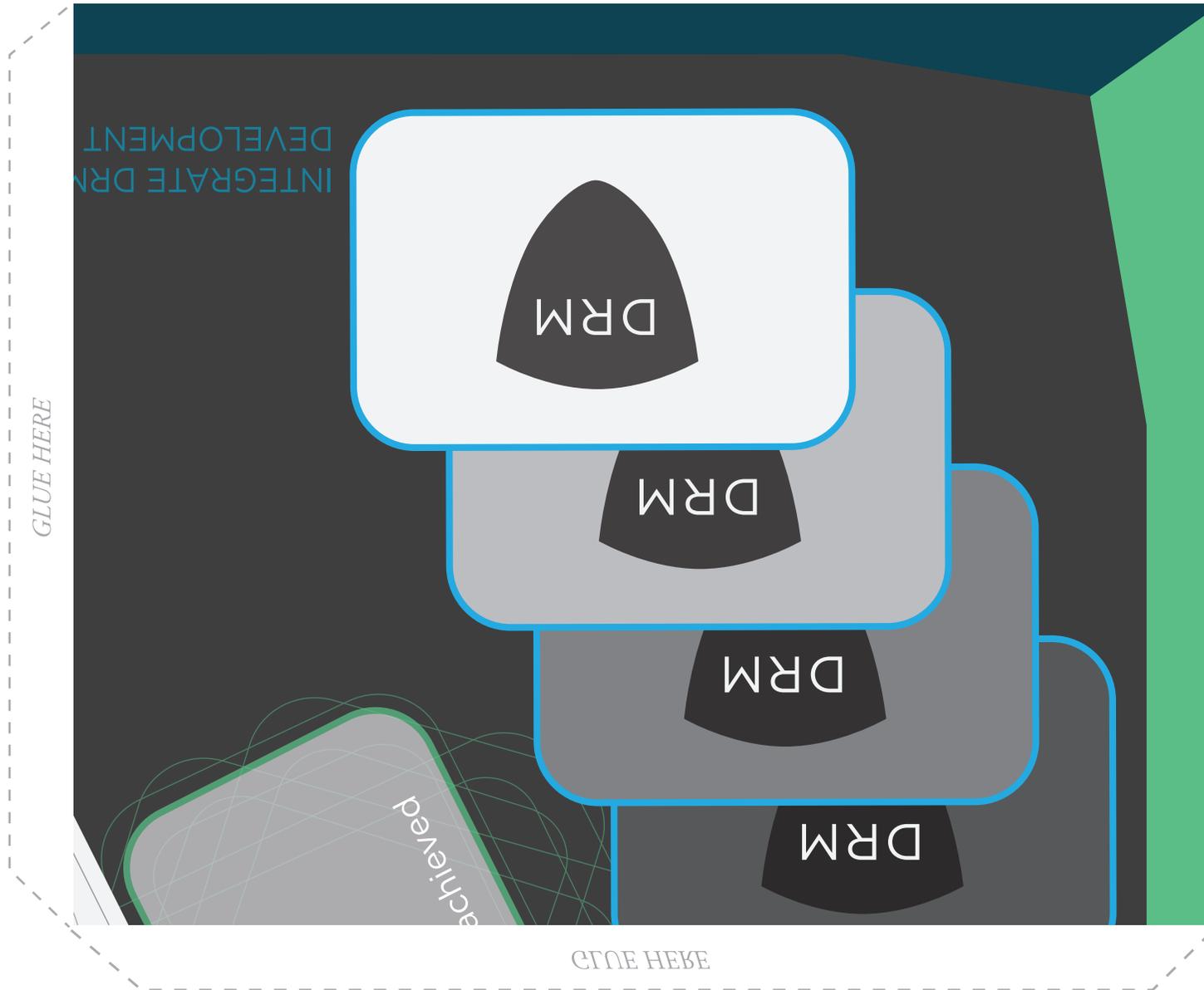
GLUE HERE

GLUE HERE



Cut out each tile inclusive flaps and glue together to receive main gameboard.





3 |



Cut out each tile inclusive flaps and glue together to receive main gameboard.



Magnitude

GAMEBOARD



© 2011 Parsons The New School For Design, New York © 2011 UNISDR



Cut out each tile inclusive flaps and glue together to receive main gameboard.



Magnitude
GAMEBOARD



GLUE HERE

MDG achieved

Magnitude

Disaster Impact

MDG - DRM DRM DRM DRM DRM = MDG

Total MDGs at risk DRM invested Total MDG loss

MDG

All levels

3

3

© 2011 Parsons The New School For Design, New York © 2011 UNISDR



Cut out each tile inclusive flaps and glue together to receive main gameboard.

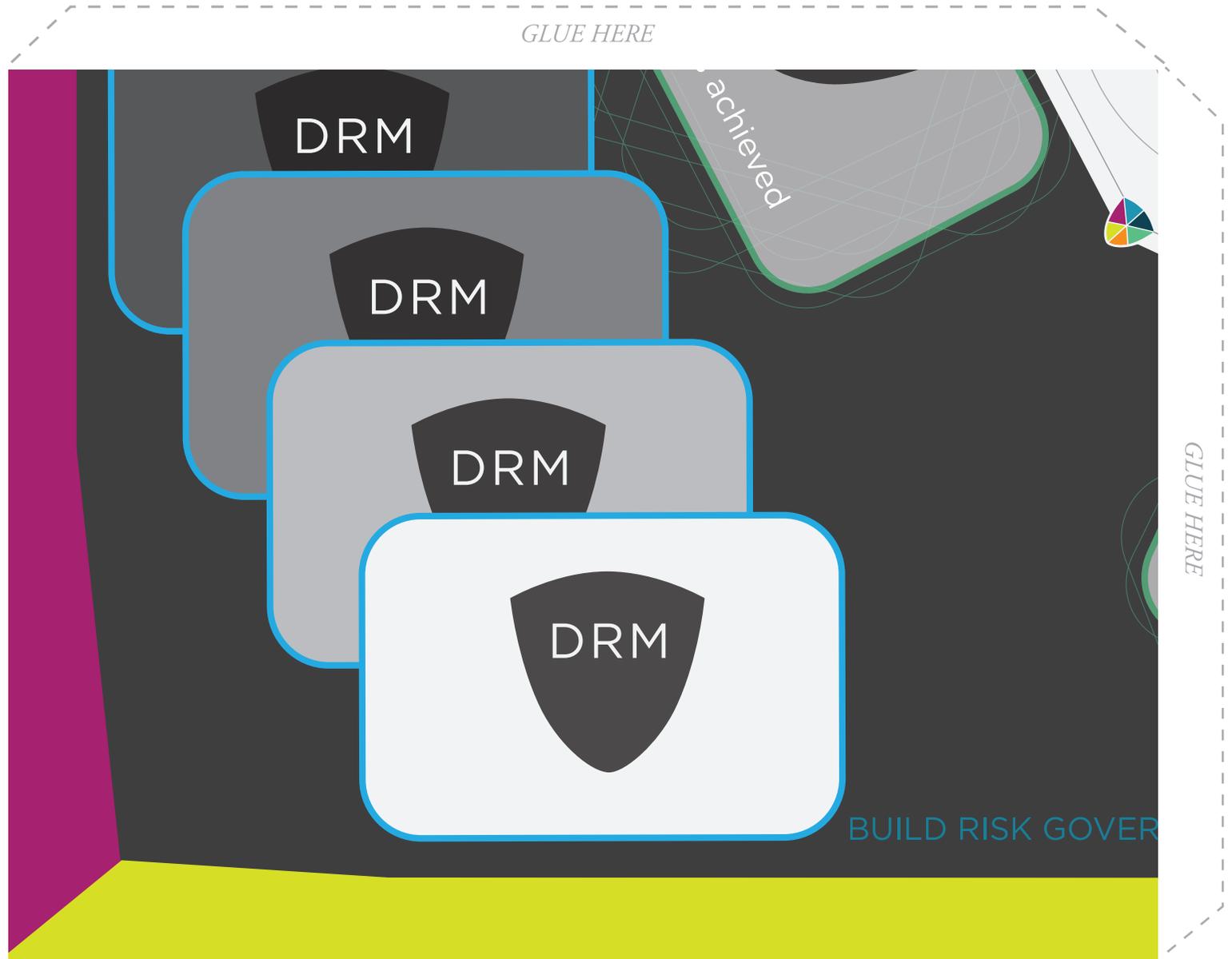


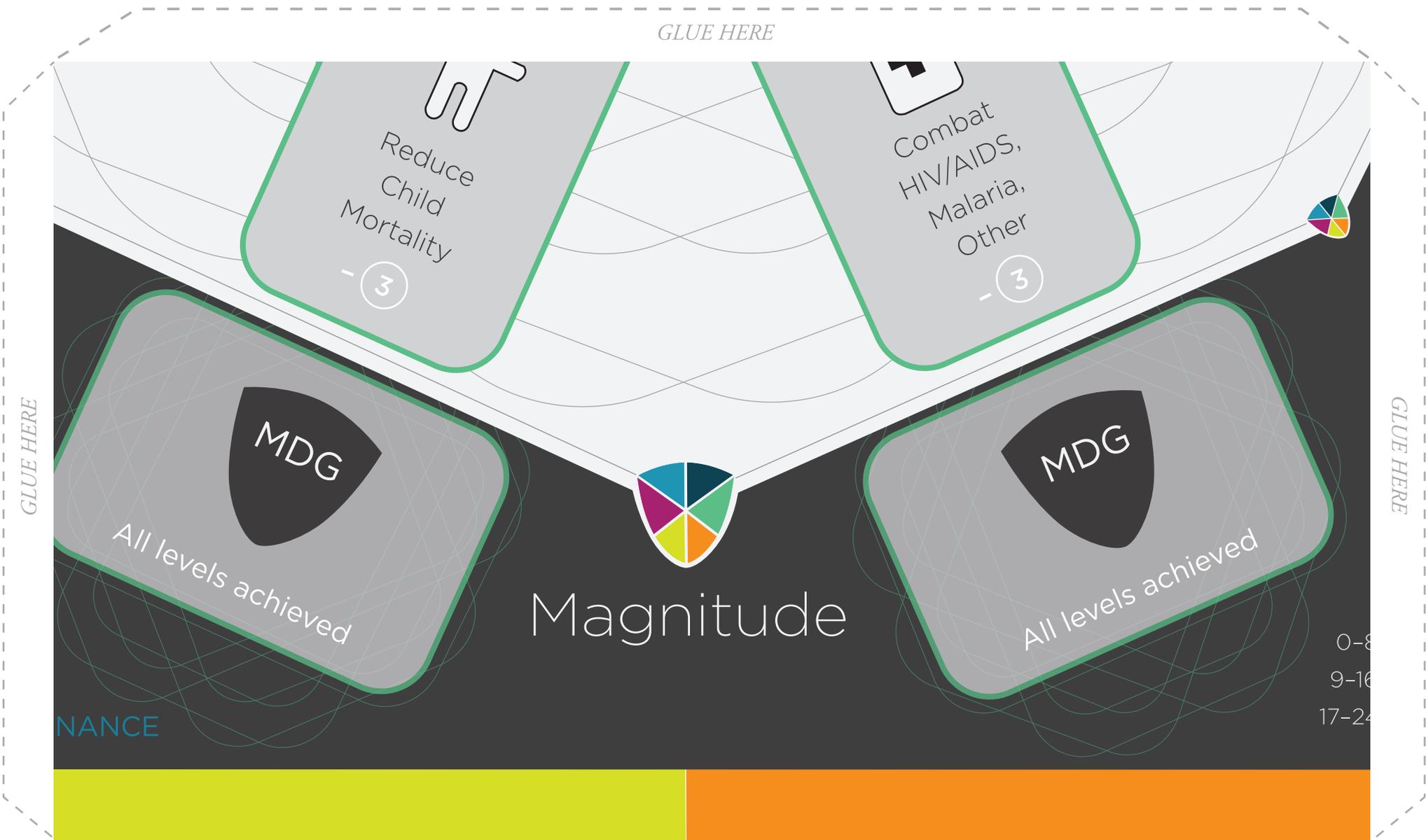


Cut out each tile inclusive flaps and glue together to receive main gameboard.



Magnitude
GAMEBOARD





GLUE HERE

GLUE HERE

GLUE HERE

Reduce
Child
Mortality

- 3

Combat
HIV/AIDS,
Malaria,
Other

- 3

MDG

All levels achieved

MDG

All levels achieved



Magnitude

NANCE

0-8
9-16
17-24



*Cut out each tile inclusive
flaps and glue together to
receive main gameboard.*

GLUE HERE

All levels

DRM

DRM

DRM

GLUE HERE

DRM COST

8 MDGs achieved \$\$\$\$

6 MDGs achieved \$\$\$\$\$\$

4 MDGs achieved \$\$\$\$\$\$\$\$\$\$

TAKE RESPONSIBILITY

9 |



Cut out each tile inclusive flaps and glue together to receive main gameboard.



Magnitude
GAMEBOARD



Disaster Deck



Disaster Discard Deck



Magnitude SCOREBOARD*REGULAR*

Base annual budget



Number of MDG cards purchased



Cost of DRM

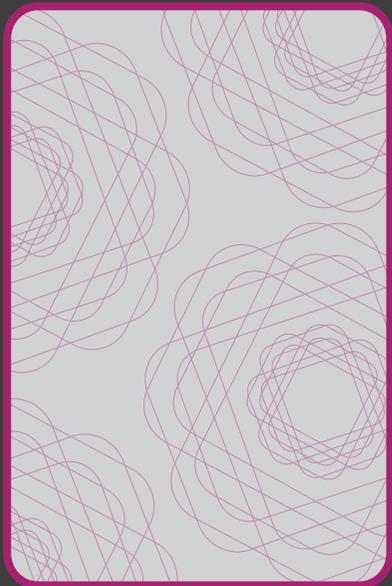




Disaster Deck

Disaster Discard Deck

Magnitude SCOREBOARD *ADVANCED*



CURRENT YEAR



IN ONE YEAR



IN TWO YEARS

Global Initiative Deck

Base annual budget

\$ \$

\$ \$ \$

\$ \$ \$ \$

Number of MDG cards purchased

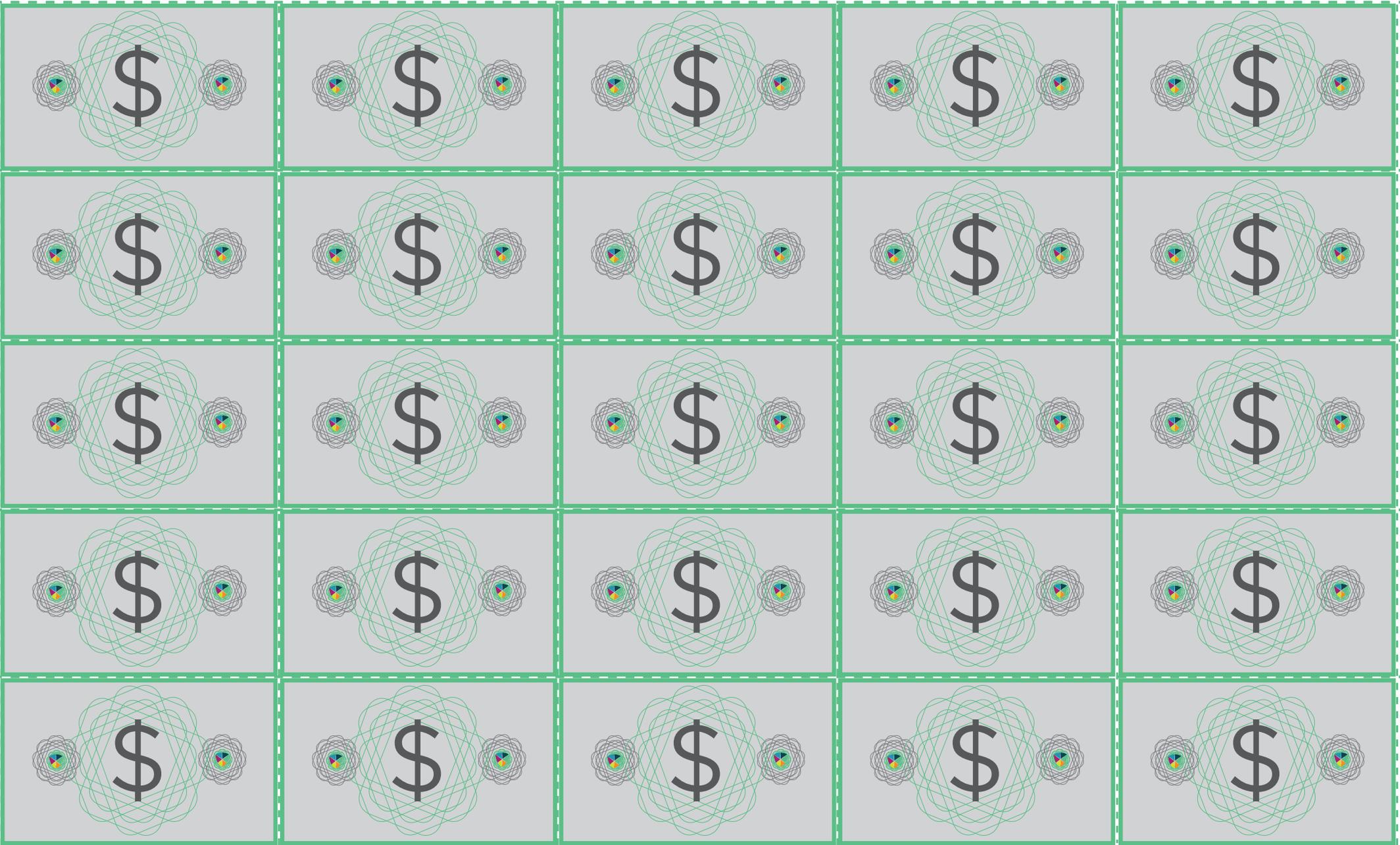
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Cost of DRM

\$ \$ \$ \$

\$ \$ \$ \$ \$ \$

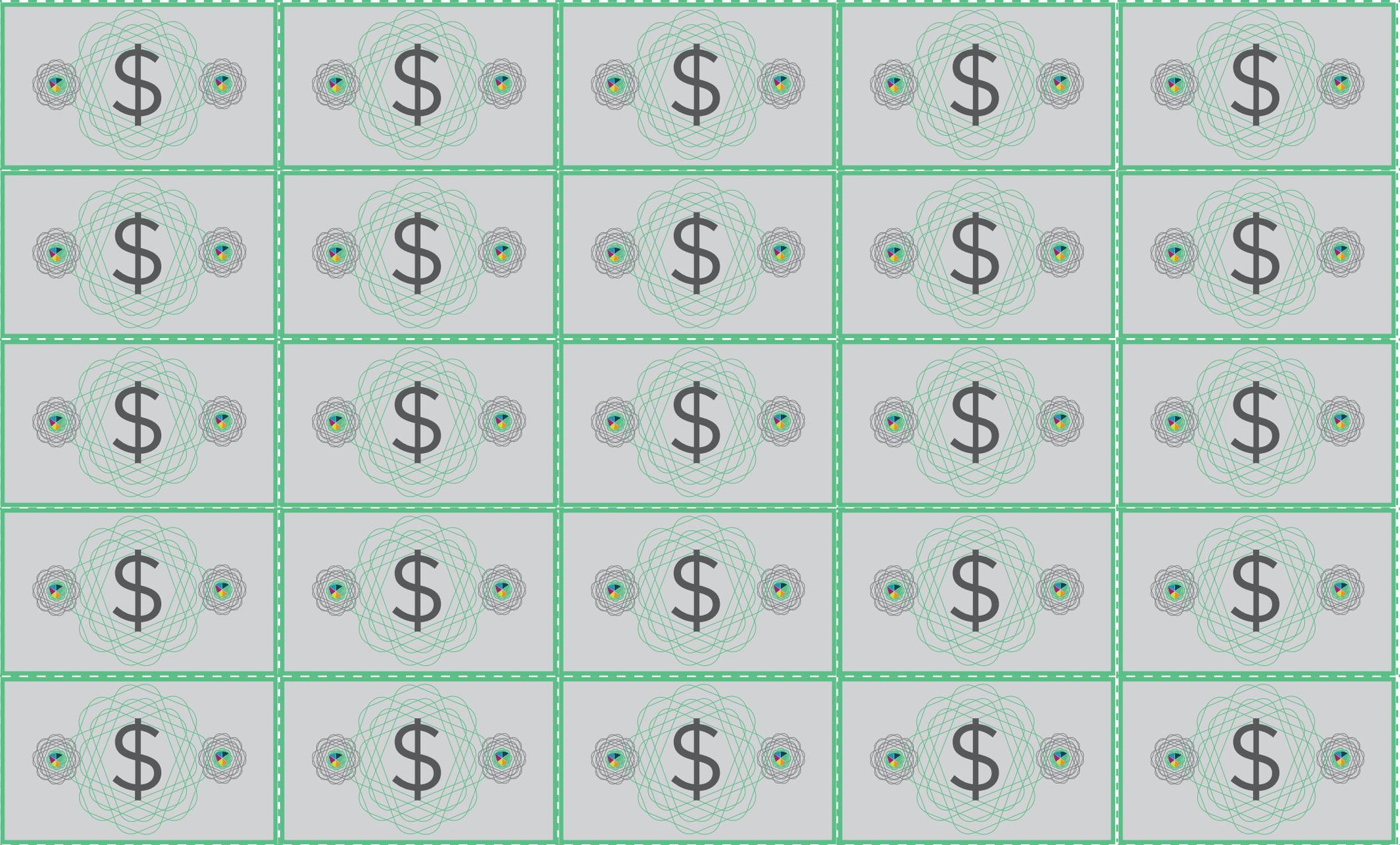
\$ \$ \$ \$ \$ \$ \$ \$



cut along
dotted lines 

Magnitude  GAME MONEY

© 2011 Parsons The New School For Design, New York © 2011 UNISDR



cut along
dotted lines 



Magnitude

