REAL MONEY *from* VIRTUAL WORLDS

Online fantasy games enable developing world entrepreneurs to make a living by trading stashes of make-believe gold for hard cash **By Richard Heeks**

KEY CONCEPTS

- A new type of service industry has emerged to meet the needs of the millions who play online fantasy games such as *World of Warcraft*.
- Players called gold farmers amass game “currency” to sell it to other players for a fee.
- This controversial practice violates the rules of play but has become a means for tens of thousands of developing world players to earn a wage comparable to that of factory workers.

—The Editors

It sounds like a digital alchemist’s question. How do you turn virtual gold into the real item? Hundreds of thousands of “gold farmers” in developing countries have found a lucrative answer. They have become entrepreneurs who make their living by profiting from online games. By assuming fantasy roles in these games, they kill monsters, mine ore or engage in other activities that earn “virtual gold” that they then sell to other players, often in rich nations, for real-world currency. Although it flaunts the rules of the game, buyers and sellers of this make-believe currency use the gold to determine the fate of a character in these fantasy games.

A gold farmer in China who plays games and sells virtual currency can earn the same wage and, sometimes, more than might be paid for assembling toys in a factory for 12 hours a day. As a result, this activity has emerged in the past 10 years as an ingenious, though controversial, way for poorer nations to earn money from information and communications technologies and a way for impoverished workers to build digital skills

that might be later transferred to other information technology jobs unrelated to game playing.

In just a few years gold farming has become a vast enterprise. A best estimate suggests that Asia, and particularly China, where most of the gold farmers reside, employs more than 400,000 players who spend their days amassing gold. Total annual trade in virtual gold probably amounts to at least \$1 billion. Perhaps as many as 10 million players worldwide buy gold from farmers or services that help them advance in the game.

Once almost invisible to nongamers, gold farming now draws considerable attention from economists and sociologists as a nexus where rich and poor, real and virtual intersect. In recent years economists, sociologists and popular media have developed a fascination for the dynamics of games that represent tiny worlds in fast forward—the fates of players and groups rise and fall in a matter of days and weeks rather than the decades or centuries that represent a human lifespan or an entire society. I became interested in gold farming after encountering virtual gold merchants while

playing online fantasy games. The endeavor, and its relation to international development, my field of expertise, became immediately obvious and lead me to a new line of research exploring the sociology and economics of gold farming.

How It Works

The grassroots gold-farming industry exists on the periphery of the world of online games known as MMORPGs (massively multiplayer online role-playing games) such as World of Warcraft and EverQuest. Not only do these games create a virtual world on-screen for their players—one with houses, landscapes and fantasy characters (including dwarfs and trolls)—they also have a virtual economy.

The make-believe currency of gamers known universally as “gold” buys new armor and weapons; food and medicine; a faster horse or a better-equipped spaceship, depending on the game’s particular imaginary milieu. By killing monsters and other adversaries, mining ore, cutting timber, and so forth, players can build up their own

store of gold. As in the real world, getting rich can be a tedious process that may take weeks or months. Thus, many players possessing real-world wealth have turned to an alternative. They do what people often do when faced with cleaning their houses or washing their cars: they get someone—gold farmers instead of domestic servants—to do their dirty work.

After farmers stockpile currency, they typically sell the virtual riches for real money on one of thousands of Web sites that market virtual merchandise for use in game play. The transaction is consummated through PayPal or other services that transfer payments online to gold-farming firms, and it amounts to buying foreign exchange in a virtual world. In World of Warcraft, currently the most popular game, 1,000 gold units retail for around \$10, which is about the same as the yen-to-dollar exchange rate.

Once the real-money payment has taken place, buyer and seller meet at a designated rendezvous point in the fantasy world, where a farmer gives the virtual currency to the buyer. Al-

“PLAYBORERS,” the nickname for those who make money from amassing the “gold” used to buy weapons and other implements in online games, usually hail from Asia and number at least in the tens of thousands.

A Geography of Virtual Mineralogy

Urban centers in developing countries, particularly China, have emerged as hotspots for gold farmers, who trade virtual merchandise collected through online game playing for cold cash. Trading firms often specialize by dedicating themselves to local, regional or global markets.

The Chinese industry began by providing low-cost services for the Korean market but rapidly went global. Some countries, including India, noted for its call-center businesses, still serve only the domestic market (*indicated by black tacks*).

NUGGETS ON GOLD FARMERS

50 million

Number of global online game players
(20 million subscription players)

100,000 to 1 million

Estimated number of gold farmers

World of Warcraft

Most popular game

\$150

Average monthly gold farmer salary in China[?]

\$1.25

Piecework rate for every 100 coins gathered

No charge

Room and board for Chinese gold farmers

12 hours,

Typical Work Hours
(seven days a week)

though farmers make most of their money by selling gold, they can also engage in “power leveling.” They take over a client’s low-level (weak, poorly skilled) game character and build it up to high levels of health, strength and skill. Getting a boost from level one to level 50 in Lord of the Rings Online costs around \$150. Sometimes, instead of assuming a client’s character, farmers serve as escorts that accompany players through dangerous or difficult tasks—the equivalent of hiring Sherpas to ascend Himalaya peaks.

Prehistory of Virtual Agriculture

Trade in virtual gold equals perhaps half of the revenues that game companies themselves earn in player subscriptions, which constitute a gamer’s initial outlay. How did we arrive at this point? Through my studies, I discovered that the gold-farming industry has developed in much the same way as real-world economies, beginning with barter and evolving eventually into a complex web of global trade.

MUD (Multi-User Dungeon), introduced in 1978 at the University of Essex in England, was the first MMORPG. Generally seen as the key forerunner for modern online games, the original MUD and its early descendants allowed multiple players to assemble in an online world—albeit one that conveyed information about characters, players and objects solely in text. In the scheme of economic development, MUD players represented the equivalent of subsistence farmers in preindustrial society. Players produced and consumed items only for themselves.

Just as in a typical subsistence community,

barter began to appear for valued game items. If I picked up an extra amber necklace and you had an extra longsword, we might arrange to swap. (Male players also reportedly donated rare items to female players in the probably unfulfilled hope of an emotional or physical payback.) Barter began to include exchange of game gold pieces, and at some point in the 1980s it made the leap from game currency to real currency. Players started offering hard cash for intangible items. In economic terms, virtual commodities had become “monetized,” and the term “real-money trading” (RMT) today describes the exchange of cash for virtual currency or objects.

Real-money trading of virtual items trundled along during the 1980s and 1990s. One might call players of that era “gold-market gardeners.” Moving up from bartering, they sold virtual gold on the side, just as a factory laborer might cultivate a vegetable garden in the backyard and sell the produce to earn some extra cash. These players still focused primarily on the game’s recreational aspects. And part-timers who make an odd buck by selling surplus items or characters can still be found today in the cybercafes of India and Indonesia.

Two things happened in 1997 to move this economic backwater to the next stage of virtual industrial development. The first was the launch of Ultima Online, which became the original truly mass-subscription online game. The second was the start of eBay, offering a low-cost way for items to be traded. The gold-market gardeners gradually realized they could make more than occasional pocket money. They began to special-

ize in obtaining game items and currency that they could sell, focusing only on their specialty game, and, in some cases, abandoning other occupations to seek virtual gold full-time. These players, mainly based in Western countries, became the first true gold farmers. They were the equivalent of an individual artisan or cottage industry model of production. Whenever a new online game was launched, currency and weapons or other items would be available for sale on eBay within a few weeks.

The year 1997 also witnessed the Asian currency crisis, an event that laid the foundation for the current gold-farming industry. Asian governments sought to spend their way out of the crisis by investing heavily in information and communications technologies, including broadband. Some of the unemployed set up new businesses such as public kiosks that rented time on personal computers for game playing, which helped to foster a strong games culture in East Asia.

The Golden Age of Gold Farming

By 2001 some of the more entrepreneurial U.S. gold farmers had started recruiting friends or even hiring staff to make money from this new trade. A few farmers—often with overseas family connections—looked further afield at low-cost locations such as Latin America and Asia. At the same time, South Koreans began to convert their cybercafés to gold-farming establishments for the medieval fantasy game Lineage, the first MMORPG from a non-Western country. Soon traders began to sell the game currency, called adena, to other players.

As gold-trading firms grew in the U.S. and Asia, they followed the example of Walmart and other industrial firms, as they looked to cut costs and scale up activity by outsourcing their basic supply operations. Their natural focus was East Asia, with its ready pool of low-cost labor that was skilled or readily trainable and its growing broadband infrastructure. Because of the size and skill of its labor force, China was the most attractive location, making it the global focal point for gold farming. In 2004 huge growth and profits for gold farmers arrived with the release of World of Warcraft, which became the most successful MMORPG ever. By 2009 an estimated 11 million subscribers had assumed the role of a character and embarked on adventures in the fantasy world of Azeroth.

The largest gold farms have become increasingly specialized, just as agriculture or manufacturing does in any advanced industrial society. Different players at a farming firm often assume different roles within a particular game: hunters may be responsible for tracking down and killing monsters. Bankers might store assets and “mule” them from one place to another. “Barkers” advertise gold-farming services to other players. Moreover, independent traders have begun to use the services of gold farmers to make money without ever actually playing a game. They started to buy and sell characters or game implements as if they were Wall Street financial instruments. A trader would, say, buy an account linked to a particular character, employ the services of a gold farmer to raise it to a higher level, and then sell it to an interested player for a profit.

A crisis took shape in gold farming in the mid-2000s, along with the global housing and financial bubble. The leading firm, IGE (Internet Gaming Entertainment), acting as a broker between gold farmers in China and Western players, earned between \$10 million and \$20 million a month and paid salaries in the millions of dollars to its senior staff. A single Chinese gold farmer reportedly made \$1.3 million over a two-year period. Individual items sold for as much as \$20,000. But from 2005 to 2009 virtual currencies devalued by 80 percent against the U.S. dollar. Research at the University of Manchester’s Center for Development Informatics, which I direct, showed that the gold bubble popped when too

\$200 million to \$3 billion

Estimated Total Real-Money Trading Worldwide (gold farming and other unauthorized online game goods and services)

\$400

Cost of power leveling (getting to level 75 in Final Fantasy XI)

\$1.3 million

Highest reported amount made by a gold farmer over a two-year period

\$13.50

Exchange rates (dollars for virtual gold) for 5 million gold pieces for the game Runescape

4 to 12 million

Estimated number of consumers of gold farming services

80 percent

ELBOW-TO-ELBOW working conditions characterize many gold-farming establishments, some of which even use the formality of time clocks and punch cards to log employees’ long hours at the keyboard.

decrease

Change in exchange rate from 2005 to 2009

FARMER-SPEAK

The complex alternative realities of online gaming engender their own intricate idioms, reminiscent of the cyberpunk fictional genre. The examples here describe activities that gold farmers might engage in when trying to elevate a character to a higher game level.

Botting: Deployment of automated game characters, "bots," that act on their own as if they were controlled by a human.

Nerfing: An action initiated so that some item or activity is reduced in value or power.

Ninja looting: Taking resources in a manner that violates the rules of good sportsmanship. One example: grabbing "loot" from a killed monster before a group of players decides how it should be allocated.

Spawn camping: A mined vein of a coveted resource automatically replenishes, or "respawns," after a predetermined interval. Gold farmers are sometimes accused of lurking in wait to capture the renewed supply.

many entrepreneurs entered the market. Gold farming still flourishes. In recent years, though, gold-farming operations have begun to seek out even lower-cost locations for their businesses, spurring the growth of start-ups in Vietnam.

An Emerging Backlash

Gold farming has become a contentious practice because amassing game currency and selling it for real dollars explicitly violates the rules of play. The companies that market online games have tried to put a stop to the marketing of gold by taking measures such as banning individual players or initiating lawsuits.

Apart from legal questions, some players view gold farming as patently unfair because it shortcuts the time-consuming task of amassing wealth and gradually ascending to higher levels of game play. Also, gold farming can create a distraction for players, in the same way that e-mail spam does. It may be hard to imagine yourself as a medieval knight defending your kingdom if you are being bombarded by exhortations that pop up on the computer screen to view various Web addresses to buy gold.

During the early years game companies and mainstream players treated gold farming as a minor irritant. But as it grew into a thriving enterprise, that attitude changed. The companies responded by introducing low-level disruptions: random events that attack and kill "bots" (characters that perform automated, repetitive tasks, such as mining ore, without direct player control); "nerfing"—downgrading or removing items or game activities that gold farmers utilize; banning of farmers' game accounts; and, finally, "patching," which introduces new game software code, that, for example, delays the exchange of currency between characters, giving the company time to investigate a transaction.

Although such actions are a nuisance, gold farmers readily find ways to circumvent them. In response, companies have taken more substantive measures, such as banning certain Chinese Internet (IP) addresses from accessing North American or European servers. And in 2007 eBay finally acceded to pressure to ban all sales of virtual items, currency and accounts, an action that backfired by spawning the creation of hundreds of brokerages that provide gold-trading and power-leveling services directly to customers.

Companies also try to limit gold farming by legal maneuvering. Before subscribing to an MMORPG, a player must agree not to engage in real-money transfer. But the issue of who owns a character's virtual items and currency remains unresolved. Does a game company have rights to everything in a virtual world, in which case real-money trading is illegal? Or is gold or a sword the property of players who create and pay for a character and its possessions? The game companies have yet to win a clear victory on this point when taking gold-farming firms to court. In fact, in China players have won rulings requiring local game companies to return virtual merchandise that had been lost because of inadequacies of the game system, cases that proved that players have ownership rights over intangible online goods.

Finally, companies have resorted to game redesigns that exclude gold farmers, changes that have sometimes had a deep effect on the game. In 2007, in response to complaints about gold farmers from players, Jagex redesigned its game Runescape to make selling virtual gold much more difficult. The cure, however, brought its own difficulties. It led to many complaints that game play deteriorated because of the restrictive measures, causing some wags to rechristen the game Ruinedscape. Even now trading in gold earned in Runescape continues, albeit in reduced and mod-

SPARTAN LIFESTYLE marks the world of gold farmers who receive free room and board in barracklike housing in exchange for 12 hours of work, seven days a week and a wage of perhaps \$1.50 an hour.

ified form. Some companies have gone so far as to adopt gold farmers' own methods. Eschewing the standard practice of making game players pay for subscriptions, these companies now receive commissions for game items purchased as their main source of revenue.

A View from the Developing World

Game players as well as companies have at times adopted aggressive tactics to fight gold farmers. About a quarter of players are vociferously antagonistic. This group has launched rather disorganized campaigns against game characters they (sometimes mistakenly) think are controlled by gold farmers. As one example, girl dwarfs, a type of character in one game, are often attacked or harassed because they are thought to be tools of gold farmers.

Some of the antagonism seems fueled by racial stereotyping. Analyst Nick Yee of the Palo Alto Research Center has described parallels between the reaction to gold farming and the way Chinese immigrant laborers were treated during the California gold rush of the mid- to late 19th century. In both cases, the derogatory epithets associating East Asians with disease and pestilence have justified the need for the Asians' "extermination": either actual ethnic cleansing from American soil or else expulsion from the U.S.-based game servers. One gold farmer characterized interactions with U.S. players: "They treat me bad ... they keep calling me farmer, China dog and such. I do not have any problems with other players except American players, they non-stop racist me."

Gold farming also remains stigmatized because the working conditions in gold farms often bear the label "virtual sweatshop." But the validity of this portrayal is open to debate. Gold farmers typically earn 50 cents per hour for working

10 to 12 hour shifts every day of the week. From a Western perspective, these conditions might appear exploitative. Yet gold farmers themselves generally consider their pay to be good, and it is often higher than they would earn doing other local jobs. Food and accommodation are rudimentary, but workers pay nothing, and for many—such as recent rural migrants—the only alternative is unemployment. Some of the work can be monotonous, but most farmers report enjoying their time at the keyboard. This mixture of work and play has even given them the epithet "playborers."

For developing countries, gold farming offers a way to gain benefits from information technology. It creates hundreds of thousands of jobs, while slightly easing the growing problem of urban poverty, and anecdotal evidence suggests it reduces crime, by putting young, urban, unemployed males to work. For that reason, although farmers operate nominally as part of the underground economy, a number of Chinese local governments have even provided investment capital to help create gold farms in their localities.

The allure of gold farming continues to build for many low-wage workers attracted by the possibility of enriching themselves through game playing. The ranks of online gamers worldwide expand by more than 50 percent annually, creating an ever swelling pool of demand. Even during the recent global financial crisis Chinese gold farms reported increases in sales volume and employment.

Gold farming points a way to opportunities for developing countries. As people spend more of their work and leisure time online, the need for related online services—under the rubric of "cyberwork"—will only grow. Future investigations on gold farming will illuminate how international trade and the Internet can spur entrepreneurial activity.

But they must also raise difficult questions. Should China and other developing countries support gold farming as a way to expand their export and employment base? Can gold farmers migrate to higher-skilled information technology jobs? Does gold farming provide a template for new forms of economic development? What other types of cyberwork may emerge from the shadows? Research questions for social science investigators abound, but all are a reminder that the ubiquity of broadband communications will give poorer countries a pivotal role in the burgeoning digital economy.

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MORE TO EXPLORE

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