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Widening Access to Organic Agriculture Through Open and Distance e-Learning

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ABSTRACT - It is a common knowledge that the ongoing destruction of the environment resulted to land degradation, poor agricultural yield and unsustainable farm production. This poor yield prompted farmers to adopt monoculture and highly importing farming systems that further leads to deteriorating soil condition. This paper narrates how the University of the Philippines Open University (UPOU), with Alfonso's (2014) Open and Distance e-Learning (ODeL) platform and worldview, has widened access to organic agriculture through the offering of non-formal course, *Organic Agriculture Online*. Organic agriculture is a benign form of agriculture that enhances soil structure and fertility giving sustainable benefits to both farmers and the environment. In this digital era, there is an urgent need to maximize information sharing through ODeL. The UPOU through ODeL will play a critical role in inculcating the concept of organic agriculture bringing about social transformation and subsequent environmental rehabilitation.

Key words: Open and Distance e-Learning, organic agriculture, non-formal education

INTRODUCTION

It is a common knowledge that the ongoing destruction of the environment has reached an alarming level. This has affected the agricultural systems which are dependent on forests for sustenance. The low agricultural production which is a

result of extensive use of the land prompted farmers to use external inputs like fertilizers and pesticides to produce high yield. These actions and events have something to do with how humanity views nature. There are two prevailing worldviews about human's relationship with nature: 1) humans dominating over nature (Pattberg 2007) and 2) oneness of humans, nature and the gods (Verhagen 2008). Evidently, many tend to believe in the first worldview.

Barry Commoner (1971), in his classic four laws of ecology published in *The Closing Circle*, made a call to understand the second worldview. Commoner (1971) announced to humanity that everything is interrelated and interconnected, that everything goes somewhere, that nature knows best and that there is no such thing as free lunch. The four laws of ecology by Commoner in a way, urge people to adopt the second worldview as applied in agriculture, forestry, fishery, or in whatever enterprise they have with nature.

Ironically, despite the literature on the importance of ecological conservation and preservation, there is still this sustained destruction of nature, loss of important biodiversity and subsequent deterioration of ecosystem services for humanity. The Internet and different forms of digital technology have allowed people to have access to information and knowledge on how to sustain environmental efforts. More and more people read and access information via the Internet. Today's generation has indeed become a digital generation (Fig. 1, 2, 3).

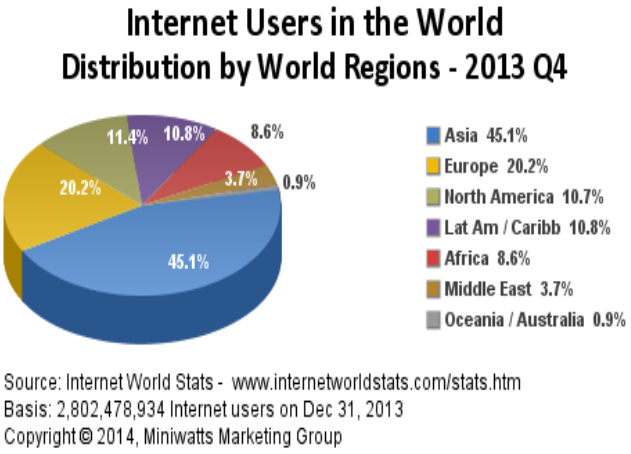

Figure 1. Internet users in the world as of the fourth quarter of 2013.

Country or area	Internet users[2]	Rank	Penetration[3]	Rank
China	568,192,066	1	42.3%	102
United States	254,295,536	2	81.0%	28
India[4]	243,298,994	3	19%	146
Japan	100,684,474	4	79.1%	33
Brazil	99,357,737	5	49.8%	86
Russia	75,926,004	6	53.3%	81
Germany	68,296,919	7	84.0%	22
Nigeria	55,930,391	8	32.9%	128
United Kingdom	54,861,245	9	87.0%	14
France	54,473,474	10	83.0%	24
Mexico	44,173,551	11	38.4%	114
South Korea	41,091,681	12	84.1%	21
Indonesia	38,191,873	13	15.4%	154
Philippines	37,602,976	14	36.2%	118

Figure 2. Number of internet users by country.

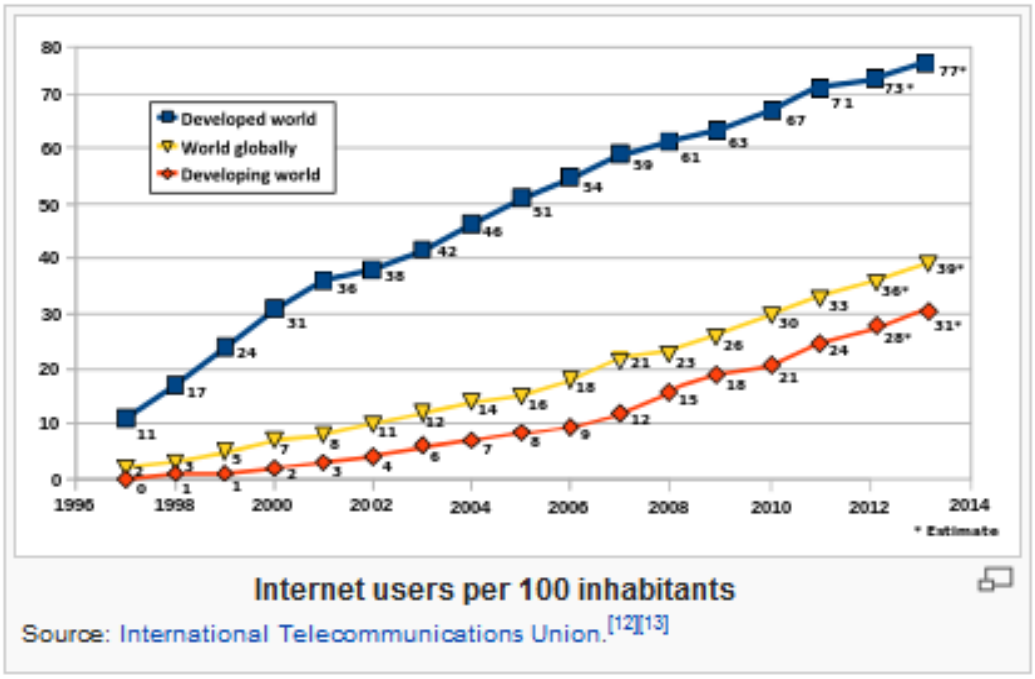

Figure 3. Internet users per 100 inhabitants in developed and developing countries.

Hence, in this digital era, there is a need to widen access to information about humans, nature and their relationship. This paper documents and narrates how the University of the Philippines Open University, with its Open and Distance e-Learning (ODeL) platform and world view (Alfonso 2014) (Fig. 4), has widened

the access to organic agriculture studies through the offering of Organic Agriculture Online.

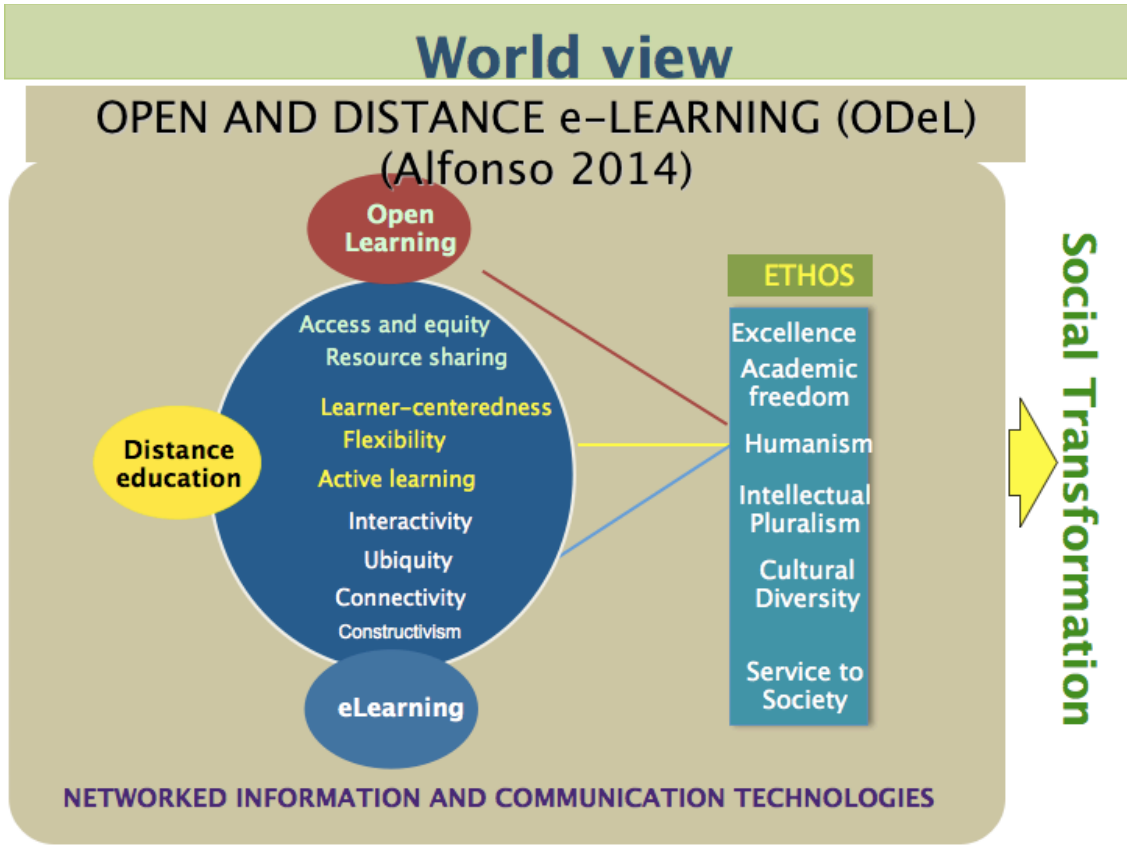

Figure 4. Open and Distance e-Learning (ODeL) platform and worldview of Alfonso (2014).

The Open and Distance e-Learning (ODeL) worldview of Alfonso (2014) combines the philosophies of open learning, distance education and e-learning highlighting learner centeredness, flexibility and active learning. This is now nurtured by the university ethos of excellence, academic freedom, humanism, intellectual pluralism, cultural diversity and service to society to bring about social transformation.

METHODOLOGY

This paper made use of document analysis to narrate how ODel has widened access to Organic Agriculture. Application data, enrollment data, learner profile, and course evaluation were analyzed. Other documents that were analyzed were the Organic Agriculture Module, Organic Agriculture Act or Republic Act 10068 of 2010 and Its Implementing Rules and Regulations,.

RESULTS AND DISCUSSION

Principles of Organic Agriculture: A Synthesis

ODeL aims to widen access to organic agriculture. The International Federation of Organic Agriculture Movements (IFOAM) (2008a) defines organic agriculture as "a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved."

Organic agriculture is not just avoiding the use of harmful inputs but it is also a way of life that respects nature and other living things including humans as it restores soil health, improves biodiversity and protects the environment as well as the health of farmers and consumers (Calub and Matienzo, 2013). IFOAM (2008b) also adheres to the four main principles which, according to the movement, are the roots from which organic agriculture grows, develops and expresses contribution that it can make to the world. These are:

Principle of Health - "Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible."

Principle of Ecology - "Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them."

Principle of Fairness - "Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities."

Principle of Care - "Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment."

Organic Agriculture, which started out as an advocacy of non-government organizations, is now being supported by the government sectors through laws, subsidies and other forms of tax incentives. In the Philippines, organic agriculture has gained recognition with the signing into law of the Organic Agriculture Act (OAA) also known as Republic Act 10068 in 2010 (National Organic Agriculture Board 2011). Essentially, the Act provides for the development and promotion of organic agriculture in the Philippines.

Non-formal Online Course on Organic Agriculture: The Response

The University of the Philippines Open University (UPOU) through the Continuing Education Committee of its Faculty of Management and Development Studies (FMDS) launched an online course on organic agriculture in July 2012 via its MyPortal learning management system. This is in response to the following needs: call upon tertiary educational institutions and government technical training centers to integrate organic agriculture in their curricula and operational activities as stated in Section 23 of the OAA; organic agriculture in the Philippines is still at its infancy; and there is a growing interest and demand for knowledge and skills in organic agriculture,

This course aims to fill the information gap by providing basic knowledge and skills on organic agriculture. The offering of this course through open and distance e-learning aims to build capabilities of the target participants who are interested to learn about organic agriculture but would not be able to join the course through the usual classroom method because of the demands of their work, time and distance.

The course goal is to contribute to the advancement of organic agriculture in the Philippines and worldwide through open and distance e-learning.

Divided into 10 Modules, the course includes the following topics: Introduction to Organic Agriculture, Principles and Related Concepts of Organic Agriculture, Close Encounters with the Soil in Organic Agriculture, Organic Fertilizers, Organic Crop Production, Organic Pest Management, Organic Animal Production, Fair Marketing of Organic Products, Organic Certification and Guarantee Systems, and Promoting Organic Agriculture.

Each module is provided with course materials available in both hard and soft copies. Open educational resources are also made available via the UPOU's MyPortal learning management system.

In order to turn a practical hands-on course like organic agriculture into an effective online and distance e-learning class, a number of teaching and learning methodologies is used. Aside from the learning materials, the learners are expected to conduct hands-on activities and farm visits designed to enhance their appreciation and learning of the course as a practical discipline. Individual hands-on activities are photo-documented and are uploaded in the course site for the class to view and discuss. Group farm visits, on the other hand, are video-recorded and are uploaded in YouTube for the benefit of those who are unable to join the farm visits. The participants of the farm visit and viewers of the footages are then asked to prepare and submit reflection papers, highlighting their learnings, comments, and suggestions from the activity,

Widening access to Organic Agriculture through ODeL

To date, UPOU through FMDS has conducted four batches from CY 2012-2014, with a total enrollment number of 144 learners.

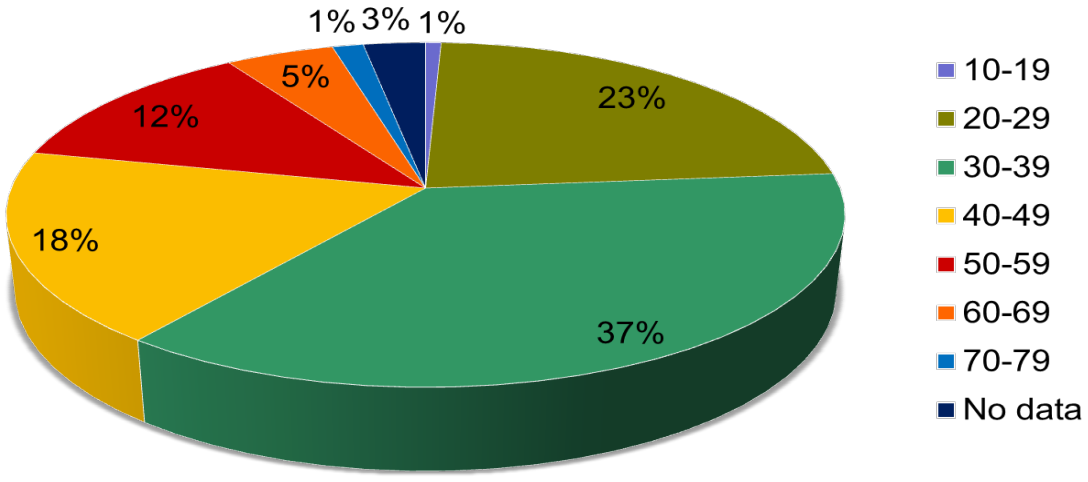

Figure 5. Age profile of Organic Agriculture students.

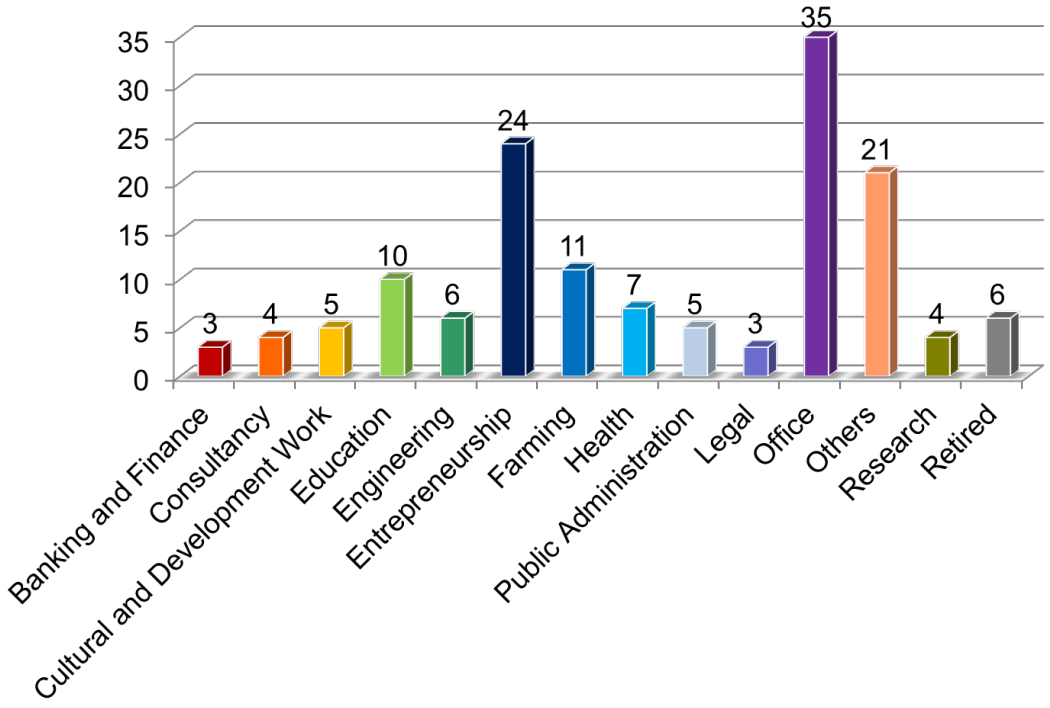

Figure 6. Occupational profile of Organic Agriculture students.

Most students are lifelong learners with the highest clusters at ages 30-39 (Fig. 5). They are second degree seekers (Fig. 6). They don't have enough time to go to schools as they have families (Fig. 7) to raise and are living in far away places.

Table 7. Civil Status of Organic Agriculture students

Civil Status	Total	Percentage (%)
Single	65	45.1
Married	72	50.0
Widow/Widower	1	0.7
Separated	3	2.1
No data	3	2.1
Total	**144**	**100%**

With this profile of the learners, it is more likely for them to finish Organic Agriculture through ODeL. Moreover, UPOU hopes to offer organic agriculture as a massive open online course (MOOC) in the near future to reach a wider number of learners thereby realizing the goal of contributing to its advancement as an advocacy and nature conservation in the Philippines and worldwide. UPOU also hopes to explore mobile or m-learning which will involve the development of mobile applications for Organic Agriculture. This, hopefully, will contribute in the implementation of Organic Agriculture Act of 2010 which aims to promote, propagate, develop further and apply the practice of organic Agriculture in the Philippines. This mobile apps will also contribute in reaching out to organic agriculture advocates, enthusiasts, practitioners, consumers, government agencies, non-government organizations, civil society, and the general public.

CONCLUSION

There is an urgent need to use the fastest means in advocating organic agriculture to the globe. The use of Web 2.0 will indeed widen access to nature and environmental studies. This will hasten the rehabilitation of destroyed satoyama landscapes and villages. The UP Open University with its ODeL platform and world view will play a critical role in inculcating the concept of organic agriculture.

RECOMMENDATIONS

In view of the need to widen access to organic agriculture, the following are hereby recommended:

1. explore massive open online course delivery for organic agriculture which will encourage unlimited participation and open access;

2. look into mobile or m-learning which will involve the creation and deployment of a free downloadable organic agriculture mobile application; and

3. develop learning materials in local dialect and/or in popular forms.

STATEMENT OF AUTHORSHIP

The first author conducted the literature search on organic agriculture, reviewed the Organic Agriculture Module look into the Organic Agriculture Act of 2010, formulated recommendations, and undertook the writing up. The second author gathered and consolidated the application and enrollment data, learner profile and course evaluation. The third author initiated the concept, conducted literature search on ecology and on open and distance e-learning, identified some issues, and reviewed the paper.

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