

Journal of  
**FOOD  
AGRICULTURE &  
ENVIRONMENT**



ISSN 1525-7519



INTERNATIONAL ASSOCIATION OF AGRICULTURAL ECONOMISTS





## General Information



## Subscription and orders



## Rates and orders



## Author's guide

[Previous](#)**2017, volume 15, issue 1**  
Journal Contents

- Food and Health  
 Agriculture  
 Environment

All  
 News and information

[Next](#)[Impact Factor](#)

## LOG IN

Username Password 

Rememb-  
Me  
[Lost your  
password](#)

## JFAE ONLINE ACCESS

[2017](#) [2016](#) [2015](#)  
[2014](#)  
[2013](#) [2012](#) [2011](#)  
[2010](#)  
[2009](#) [2008](#) [2007](#)  
[2006](#)  
[2005](#) [2004](#) [2003](#)



## Food and Health

**Hydration rate influence on the couscous quality**

Author:

Samia Lefkir <sup>1\*</sup>, Karima Yahiaoui <sup>1</sup>, Abdenour Yesli <sup>2</sup> and Ghania Ounane <sup>3</sup>  
[Abstract available] [Full text for subscribers]**The effect of saline concentration and storage temperature in the quality of Sharri cheese**

Author:

Mergim Mestani <sup>1</sup>, Xhavit Ramadani <sup>1</sup>, Tahire Maloku Gjergji <sup>2</sup>, Hajrj Mehmeti <sup>1</sup>, Arsim Ademi <sup>3</sup> and Ibrahim Mehmeti <sup>1,3\*</sup>  
[Abstract available] [Full text for subscribers]

## Agriculture

**Effect of the seaweed extract applied on seeds and or leaf pulverization in the soybean development and productivity**

Author:

Julio César Guerreiro <sup>1</sup>, Éder Blainiski <sup>2</sup>, Diego Luchini da Silva <sup>2</sup>, Jonathan Pereira Caramelo <sup>2</sup>, Thaise Mylena Pascutti <sup>1</sup>, Nádia Cristina de Oliveira <sup>3</sup> Pedro J. Ferreira-Filho <sup>4</sup>  
[Abstract available] [Full text for subscribers]**Effects of different types of vermicompost on the growth and rooting characteristics of three rose rootstocks**

Author:

Mohammed Refdan Alhajhoj  
[Abstract available] [Full text for subscribers]**Experimenting the possibility of callus development and growth from Peganum harmala L. leaf discs and assessment of the antibacterial activities of callus extract against Salmonella sp. and Bacillus subtilis**

Author:

Ahmad Zatimeh <sup>1\*</sup>, Rida A. A. Shibli <sup>2</sup>, Reham W. Tahtamouni <sup>3</sup>, Tamara S. Al-Qudah <sup>4</sup>, Saïda Abu Mallouh <sup>4</sup>, Laila S. Younes <sup>5</sup> and Fayha M. AL-Hawamdeh <sup>2</sup>  
[Abstract available] [Full text for subscribers]

## Environment

**Using environmentally friendly substrate in soilless lily production**

Author:

Malik G. Al-Ajlouni\*, Yahia A. Othman, Bassam M. Al-Qarallah and Jamal Y. Ayad  
[Abstract available] [Full text for subscribers]**Effect of sewage on Caenorhabditis elegans**

Author:

Saleh Alhewairini  
[Abstract available] [Full text for subscribers]**Characterization of arsenic speciation using XANES spectroscopy in Comamonas terrae, an arsenite-oxidizing bacterium isolated from agricultural soil in Thailand**

Author:

Kitja Chitpirom <sup>1</sup>, Ancharida Akaracharanya <sup>2</sup>, Somboon Tanawupawat <sup>3</sup>, Natchanun Leeptatpiroon <sup>4</sup>, Kyoung-Woong Kim <sup>5</sup>, Josef Hormes <sup>6</sup> and Alexander Prange <sup>6,7,8\*</sup>  
[Abstract available] [Full text for subscribers]



**Understanding terrorism based on radicalism idea in order to avoid instability for achieving environmental peace and justice through sustainable development goals**

Author:  
Muhammad Khairil<sup>1</sup>, Emrizal<sup>2</sup>, Muhammad Rizal Razman<sup>3</sup>, Zuliskandar Ramli<sup>4</sup> and Kadir Arifin<sup>5</sup>  
[Abstract available] [Full text for subscribers]

**Understanding aggressive behaviour to avoid damages through the precautionary principle towards sustainable development goals**

Author:  
Muhammad Nur Ali<sup>1</sup>, Emrizal<sup>2</sup>, Muhammad Rizal Razman<sup>3\*</sup>, Zuliskandar Ramli<sup>4</sup> and Kadir Arifin<sup>5</sup>  
[Abstract available] [Full text for subscribers]

**Bacterial biofertilizer: An innovative green biotechnological approach for sustainable growth and biomass accumulation in Eucalyptus clones**

Author:  
Gulab Pandove<sup>1\*</sup>, Madhurama Gangwar<sup>2</sup> and Avtar Singh<sup>1</sup>  
[Abstract available] [Full text for subscribers]

**Strategic issues on primary students' knowledge towards sustainability of human habitat and environment**

Author:  
Rahyunir Rauf<sup>1</sup>, Nurman<sup>1</sup>, Sharifah Zarina Syed Zakaria<sup>2</sup> and Muhammad Rizal Razman<sup>2\*</sup>  
[Abstract available] [Full text for subscribers]

#### Article Purchasing

#### Impact Factor

If you would like to purchase a specific document (article, review or a journal issue), please contact the editorial office. When ordering, specify the title of the article or review, issue, number, volume and the year.

This section contains peer-reviewed and accepted articles published in both the print and or online journal. The requested document is freely available only to registered users with an online subscription to the journal of Food, Agriculture & Environment. If you have set up a personal subscription, with this journal please enter your username and password.

Follow us on [Facebook](#), and [LinkedIn](#)

[Author notification](#)





## Strategic issues on primary students' knowledge towards sustainability of human habitat and environment

Rahyunir Rauf<sup>1</sup>, Nurman<sup>1</sup>, Sharifah Zarina Syed Zakaria<sup>2</sup> and Muhammad Rizal Razman<sup>2\*</sup>

<sup>1</sup>Faculty of Social and Political Studies (FISIPOL), Universitas Islam Riau (UIR), Jalan Kaharuddin Nasution, No 113, Simpang Tiga Marpoyan, 28284 Pekanbaru, Riau, Indonesia. <sup>2</sup>Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia. \*e-mail: mrizal@ukm.edu.my

Received 10 September 2016, accepted 29 December 2016.

### Abstract

This paper discusses the findings of the survey study among primary school students in Malaysia. This study investigated the level of knowledge and awareness of primary students on the issues related to human habitat and the environment based on qualitative items of questionnaire regarding to their interest, concern and opinion. Conclusions that can be drawn based on this study are: the students will show interest if they are often exposed to a relevant issues including at school, their home and other places they visited. However, the students at this age level, despite showing an interest on the relevant issues, also potentially become bored and not sensitive to such things, if the knowledge on the issues is always conveyed using the same method. Therefore, a creative teaching and learning approach is required to promote students' interest to learn more about the human habitat and the environment, as well as to produce students with imaginative and innovative thinking.

**Key words:** Knowledge, awareness, human habitat, environment.

### Introduction

In preparation to become part of the global community members, knowledge is the key element not only to be learned but also dominated by all. According to Hart<sup>1</sup>, in the era of globalization, an innovative education system is critical to enable the students to build and create advanced and better life. Thus, at the primary level, exposure to learning science is important because at this time the students begin to structure their own ideas<sup>2</sup>. Meanwhile, Driver<sup>3</sup> and Osborne and Freyberg<sup>5</sup> proved that the science learning in primary schools can affect students' knowledge for higher learning in the future. At this time the basic understanding of the values of the society should be nurtured and maintained. Education about the environment is one of the ways, since education provides variety of skills and values such as critical thinking, subjective knowledge, values, and the ability to influence a development<sup>6</sup>.

Extensive knowledge without realizing the impact, consequences and its importance to human habitat and environment were not necessarily able to ensure sustainable development. Concern for the environment that encompasses the values and attitudes toward the environment, together with knowledge of the environment, including scientific knowledge on environmental issues should be developed to achieve a balanced view<sup>7</sup>. Pupils have begun to expand the informal ideas about science from a variety of social and cultural resources<sup>4</sup>. Therefore, when they began to enter in primary school, students' existing informal idea ultimately will be formed, developed and structured into a formal idea through science education.

### Knowledge about Human Habitat

The basis of a civilization is the knowledge, but the damage to the habitat of mankind and the environment mostly occur when there is lacking of knowledge among the people<sup>1</sup>. Once the development is planned for modernization, environmental exploration level is inevitable. Natural resources such as trees are cut down, the lake filled, earth minerals excavated greedily, causing flora and fauna to lose their habitat as well as many other side effects. If this continues, then at some point, should the development be stopped to prevent the ongoing destruction of nature? Although there is no simple solution, severe and persistent destruction can be avoided with proper control. Policy and decision makers at the highest levels with the support of the community can continue to develop without the devastation and destruction of the environment if the development is planned by putting sustainable development as targeted approach.

Knowledge about sustainable development is crucial to be mastered among all segments of society as citizens as the development of a country will involve their whole general public either directly or indirectly. Therein lays the role of school to supply the knowledge for the society. As if the students were imbued with the knowledge and awareness, consequently, it is likely to be cultured and have a potential in becoming productive members of society.

**Human habitat and the environment in everyday life:** In the questionnaires distributed in this case study, respondents were asked about their interest in the things that happen around them,



in order to determine their concerns on current issues on human habitat and environment. Then 18 descriptions were raised and the students were asked to classify their level of interest towards each description either to be "very interested", "interested", or "not interested". The most frequent answers given were "very interested" and "interested" which was recorded to be more than half (50%) that are descriptions about sports (60%); technological advancement (64%); health (59%), earth and space (66%); side effects of technology (59%); and the extinction of wildlife (52%). The highest mean of 0.95 was recorded in the description of Earth and space (Table 1) (for the purpose of finding the mean, the choice is very interest and interest combined). This finding is not surprising because a topic on earth and space are included in the primary science curriculum in Malaysia, specifically in the Year 4, 5 and 6.

The influence of media such as television and newspapers played a big role in the selection of this answer. Based on interviews with teachers and observations during school visit, most of the students seem to have at least a television at home. The learning topics posed by the teacher usually are able to get students' attention if it is related to television programs ever aired. This can be attributed by the assumption that these students feel that something is more realistic when the learning subject is also served in television shows or newspapers and magazines. For instance, during this study, Malaysia and some neighboring countries were being hit by the bird flu, and hand, mouth and foot disease. Thus, it is not surprising as the aspects of health have attracted students' attention and interest in their study. Whereas, the other topics might attract students' attention because of these topics are parts of the learning topics they learned in school. Therefore, the conclusion that can be made is the students will pay attention to topics that are relevant to their lives. Although they show an interest in the issue of extinction of wild animals, the assumption about their awareness towards the importance of the environment should not be made solely. This is because other matters related to the environment such as water pollution, air pollution and landfill disposal problem show low percentage, less than 50%.

So the conclusion that can be drawn here is that students' interest would arise as they are often exposed to related issues not only at school but also at home. Education can play a role by

taking advantage of this by linking education with the incidents or phenomenon going on around. Therefore, teachers have to be creative in the way of attracting students' interest, so that they do not just learn to memorize facts but to use the knowledge available by linking or apply it to their real life.

**Students' opinion on the human habitat and environment:** Based on the answers given by the respondents through the questionnaire, the students seem to have less interest in the matters related to the environment. This is based on the percentage of their answers that are less than 50% (see Table 1). Therefore, a question raised was, are these students not aware or knowledgeable about human habitat and environment? When questions asked only cover aspects of human habitat and environment (views on human habitat and environment) and there is no comparison with other things, then the students seem to have awareness towards human habitat and environment (Table 2). For these questions, they can only choose one answer either "agree", "disagree" or "do not know". As recorded in Table 2, most of the items indicate more than 80% of the students agree with the statements.

Based on the analysis on the primary science syllabus, the syllabus content seems to have less of facts and knowledge related to the environment and human habitat. So, why do the students give a higher percentage when asked about these things? According to science teachers interviewed, too much exposure given can also make the students get bored to these issues. Instead, the students will be more excited to learn new things. When the issue of the environment and human habitat is taught, then the students should learn it with the sense of responsibility. This target requires the role of the teachers.

Based on the findings, a total of 95% of the students love the nature (see Table 2 questions A). However, according to their teachers, the students are not able to differentiate between the natural environment and recreational parks. Students were also asked about environmental education and whether they prefer to learn things related to it. Of them 96% agree that environmental education is important (see Table 2 question B). Higher percentage also is made by the students in this study when they were asked about the study of animals (80%) and study of plants (76%).

**Table 1.** Respondents' interest in the things happening around them in order to determine their concerns on human habitat and environment.

	Very interested (%)	Interested (%)	Not interested (%)	Mean	N
Animation	40	43	17	0.83	100
Sports	60	29	11	0.89	100
Music/Entertainment	49	41	10	0.90	100
Movie	36	43	21	0.79	100
Car	44	35	21	0.79	100
Rocket/Airplane	50	30	20	0.80	100
Technology advancement	64	28	8	0.92	100
Politics	14	45	41	0.59	100
Health	59	33	8	0.92	100
Earth and space	66	29	5	0.95	100
Water pollution	30	37	33	0.67	100
Air pollution	29	42	29	0.71	100
Landfill disposal problem	17	43	40	0.60	100
Infectious diseases	25	30	45	0.55	100
Side effects of technology	59	30	11	0.89	100
Extinction of wildlife	52	30	18	0.82	100
Animals	49	34	17	0.83	100
Plants	47	37	16	0.84	100



**Table 2.** Students' opinion on the human habitat and environment.

		Agree	Disagree	Do not know	N
A	Love nature	95	1	4	100
B	Research on the environment is important in everyday life	96	2	2	100
C	Interested to learn about environment	78	12	10	100
D	Likes to study about animals around	80	14	6	100
E	Likes to study about plants around	76	13	11	100
F	Extinct animals should be protected	98	2	0	100
G	Ship causing oil spills in the ocean should be fined	91	4	5	100
H	Love and wish to participate in environmental protection association	58	28	14	100
I	Fund should be established for the care and control of wild animals from extinction in the near future	79	12	9	100
J	Education about the environment is important for environmental protection	89	4	7	100
K	Caring for the environment is important to encourage tourist from within and outside the country	88	5	7	100
L	Knowledge about the environment that is spread by the media is playing an important role	82	11	7	100
M	Environment should always be taken care of no matter where	96	1	3	100
N	Peaceful nation is a country without environmental pollution	80	10	10	100

Although the percentage of awareness and environmental concerns (question B) is high, the percentage is low when they were asked if they like to learn about the environment (question C) (78%).

Students also show a high percentage of their knowledge on the current environmental issues as 98% of students agree with the statement regards to animal extinction (question F). A relatively high percentage (91%) was also recorded for question G (a leaking ship that spills the oil at sea should be fined). This awareness would like to instill that the students not only know what is happening around them but also realize the consequences of an action. However, the interest to participate in environmental protection association (question H) is still less (58%). This is most likely because they were not exposed to the activities of the association and the primary campaign is still lacking. Thus, an active measure is required by schools, ministries or NGOs in promoting such associations.

Finally, based on the questions that lead to the development of the country and related to the environment, more students agreed that the environment is important for national development. This is based on the percentage of pupils answer in question K, namely to protect the environment is important for a country to boost their tourism industry (88%). Similarly, the question N, a peaceful nation is a nation without environmental pollution (80%). Campaigns to promote tourism industry have long held through the local mass media.

### Conclusions

The aim of education is not only to make students to be knowledgeable, but also capable of using that knowledge for a good cause. Even though the students at this age might show interest in the things that are relevant to their lives, they are easily become bored and insensitive to such things if being exposed to it with the same approach. Learning contents without appropriate teaching methods and efficient learning activities will not guarantee

the effectiveness of learning. Students might be able to memorize a fact but there is no assurance that they will be able to apply this knowledge in their daily lives, particularly involving issues related to the environment and human habitat. Thus, knowledge of formal learning in schools alone will not necessarily be able to promote the awareness among the students. Support from other parties is also vital to ensure the students to gain knowledge and at the same time make them to be more aware and conscious of the knowledge delivered.

### References

- <sup>1</sup>Hart, R.A. 2008. *Children Participation: The Theory and Practice of Involving Young Citizens in Community Development and Environmental Care*. Earthscan, Oxfordshire.
- <sup>2</sup>Harlen, W. 2001. Research in primary science education. *Journal of Biological Education* 35(2): 61-65.
- <sup>3</sup>Driver, R. 1983. *The Pupils as Scientist?* Open University Press, Buckingham.
- <sup>4</sup>Driver, R., Guesne, E. and Tiberghien, A. 1985. *Children's Idea in Science*. Open University Press, Buckingham.
- <sup>5</sup>Osborne, R. J. and Freyberg, P. 1985. *Learning in Science: The Implications of Children's Science*. Heinemann, New Zealand.
- <sup>6</sup>Tilbury, D. 1995. Environmental education for sustainability: Defining the new focus of environmental education in the 1990s. *Journal of Environmental Education Research* 1(2):195-212.
- <sup>7</sup>Littlelydyke, M. 2000. Science Education and the Environment. Conference Proceedings presented during British Educational Research Association Conference, Cardiff University, 7-10 September 2000.