

# Scientific Basis of Deep Spirituality in Sustainable Agriculture

By Nicanor Perlas

This topic was presented by Nick Perlas in the class - Colloquium in Agriculture- held at UPLB on Aug 7, 2006. The class is being taken by all undergraduate agriculture students who are in their senior year. It is a last pitch to expose students to issues and opportunities in agriculture. Majority in the audience (including staff/professors) were new to the topic and some felt overwhelmed or were uncomfortable with new or contrary ideas. Below is a rough transcription by Pam Fernandez, the course coordinator during that semester. Any inaccuracy is from transcription. Some internet sources and figures have been added as aid in understanding.



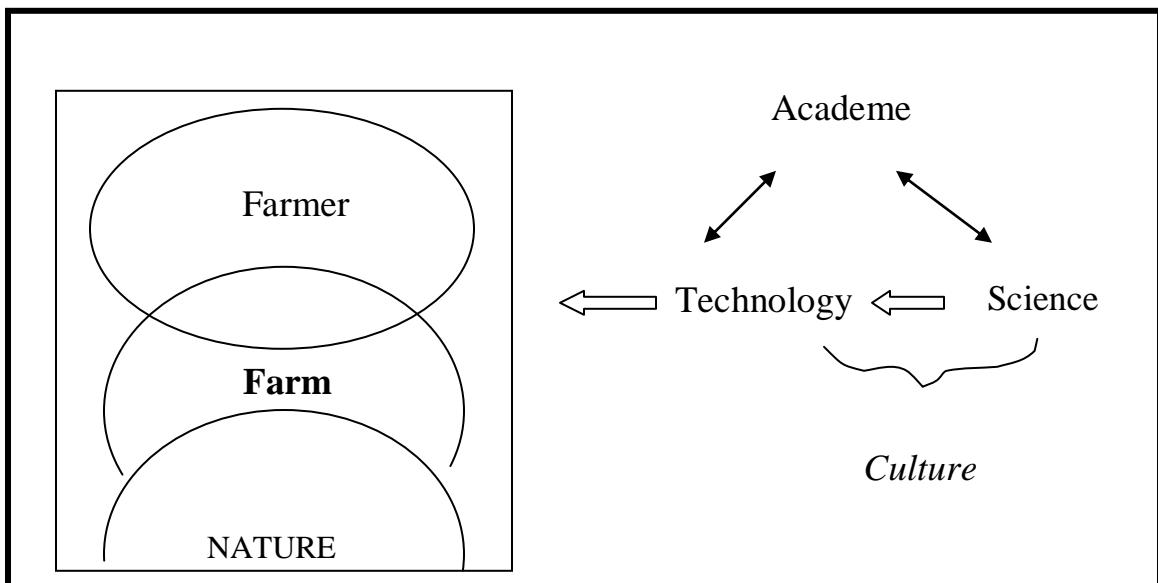
[http://www.cadi.ph/nicanor\\_perlas07.htm](http://www.cadi.ph/nicanor_perlas07.htm)

## The Challenges

1. Less than 3% of agriculture graduates go back to farming. So what's the point of studying agriculture? What is really the problem here? We hear that it is the parents themselves who discourage their children to go into farming, or the children see the hardship of their farmer-parents and don't want to have the same experience. Or, the call of call centers is very strong!
2. There are so many problems associated with agriculture. Sustainable Agriculture (SA) was subsequently put forward in the 80's and 90's in response to such problems but after 20 years it is still poorly understood or appreciated.
3. Sustainable agriculture is knowledge intensive and is not yet imbibed by the mainstream. Many who were into it or practice it were unable to

sustain their interest or initiative. Yet in many countries SA is popular. In Sweden, 25% of their agriculture is already SA. New Zealand aims for 100% SA (organic) in 2020.

4. There is an abundance of programs or projects on SA. Many of these programs are even international and with good funding. They are mostly dealing with approaches. However, when the program or funding ends, very few are able to continue to practice.
5. Some of these programs are based in the academe. There is however a problem in this ... A university- or academe-defined farmer is different from a real farmer. The mindset/framework is also very different.
6. In our teaching we tend to fault the farmers for our agriculture problems. Professors should have a farm practice or experience and see if they themselves could survive in farming. Very few professors, much less advocates, are true practitioners of SA.
7. Whichever you are (a professor or a true farmer), the chance of success when you do farming is low. So who would want to farm?
8. To understand the greater picture, note the farmer's relation to his farm and to nature; the farm also interacts with the nature...



9. The produce which comes from the farm goes to the market. As seen from the diagram, the farmer uses technology, which is based on a kind of science. Technology and science are influenced by culture while the farmer himself has his own culture (there are effectively 2 different cultures). And technology from one culture influences the farmer.

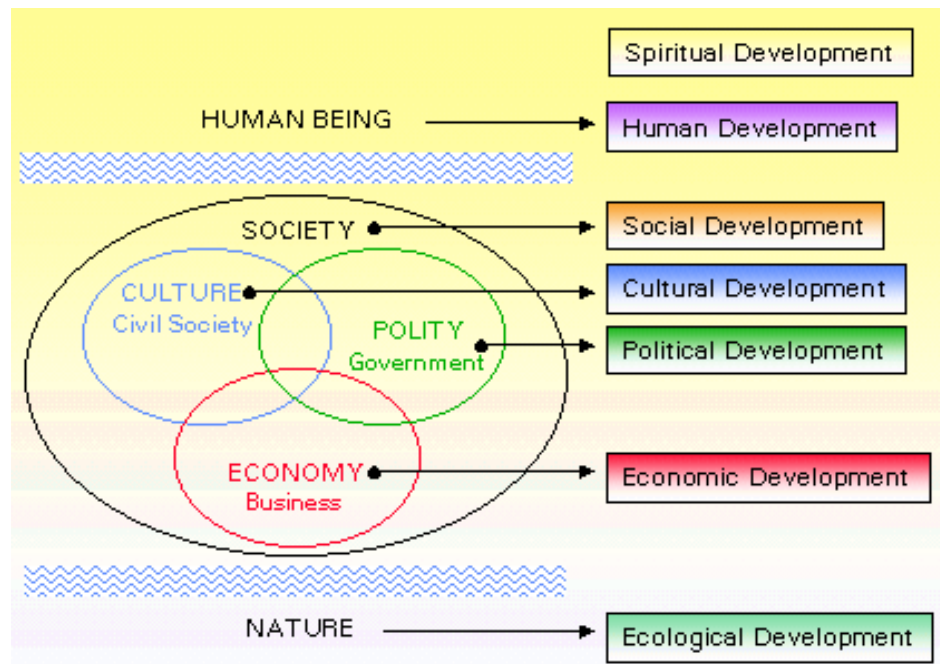
10. Those who farm in poor countries do so because they have no choice. The Philippine society (our own culture) does not give much value to agriculture.
11. Another determinant of the success or failure of agriculture is the market price. We do “distress sale” which spells poverty: Farmers accept whatever price is offered them especially by middlemen. Such price is often low (so “lugi”, poor economics). Then there are also natural calamities.
12. Our farmers in general pay 30% interest rate on loans. But in Benguet they pay 700%! Our government can’t help them in their problem. The policies are unhelpful. We need only to look at the agrarian reform program.
13. On the other hand, countries abroad put great attention to the agriculture sector. Did you know that there are about 200 PhD’s in the US just studying agricultural prices and/or the market?
14. So we citizens are left on our own. Now, if our personality is weak, we can’t do successful farming.
15. Then there is another great challenge: global warming or climate change. In Manila there are 2M people who have been evacuated in the last 10 years because of water crisis. We also cannot predict the act of the government. How do we respond to all these challenges?

### **Our Response: Sustainable Agriculture**

16. Our own (Philippine) definition of SA which is an expanded framework of sustainable development has been adopted all over the world. Sustainable Agriculture is designed to respond to the above-mentioned challenges. (PSSD is Philippine Strategies for Sustainable Development; the basis of Philippine Agenda 21). <http://www.psdn.org.ph/agenda21/pssd.htm>; <http://emb.gov.ph/eeid/philagenda.htm>
17. Consider that farmers spend 6000 Php just to mitigate the effect of pesticides. This is quite high an investment. Thus, SA must be **economically feasible** as well as **ecologically sound**.
18. **Associative economics**, as the alternative economics framework, needs to be pursued. The current economic mode traps us into a competition where the playing field is not even. <http://www.associative-economics.com/> ; <http://www.cfae.biz/associative-economics/>
19. There must also be a favorable **policy or regulatory environment**. But if one would recall the “Bolante case”, we can see that much of the resource

for agriculture is channeled everywhere (e.g. irrigation for Metro Manila, misuse of fertilizer fund, etc!).

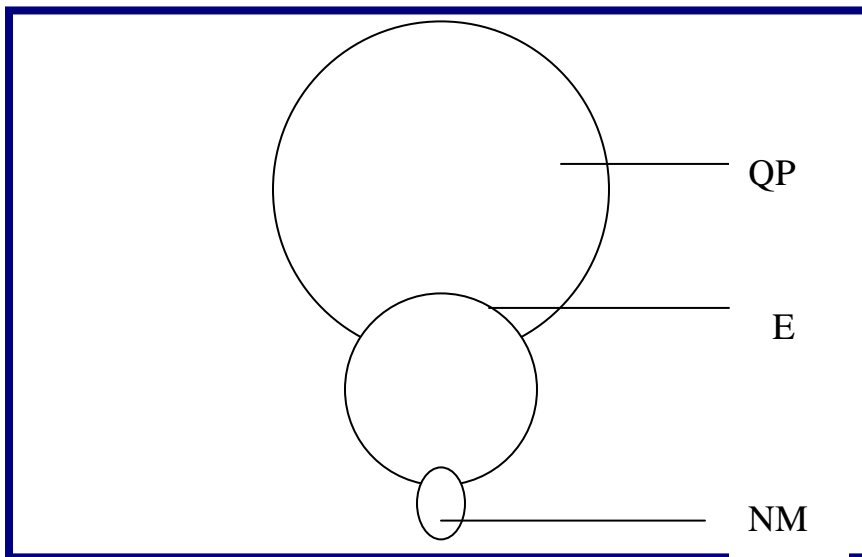
20. In the realm of culture, SA means **cultural sensitivity and appropriateness**. We should realize that 80% of what the farmers are doing is leading to SA. Did you know that California is globally the most sophisticated in terms of SA research? Its economy is the 7<sup>th</sup> largest in the world (and it is only a state!).
21. Another dimension of SA is **social justice** (to include here is humaneness, equity and farmer empowerment to means of production). This can be elaborated elsewhere, for our lack of time in this forum.
22. Another important but often-overlooked dimension of SA is **human development**. This focus on the farmer himself. SA is not truly itself if this dimension is neglected.
23. The last dimension of SA is **deep spirituality**. This is the theme of my talk. This is a subject that can be discussed in long sessions but we will only introduce it here to generate awareness and to start the process.



[http://www.cadi.ph/sustainable\\_development.htm](http://www.cadi.ph/sustainable_development.htm)

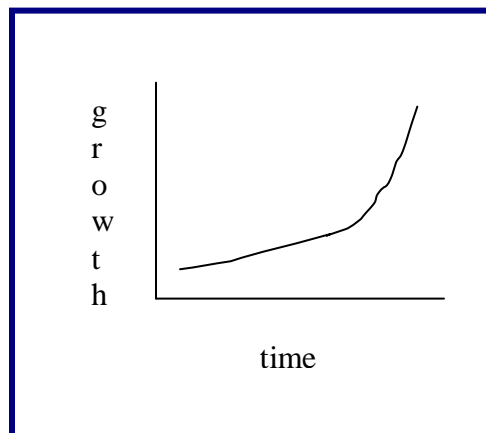
## Deep Spirituality and Science

24. In 1968, in a big conference in Chicago, it was declared that materialism as a philosophy is dead. Therein logical positivism was abandoned. Materialism explains only part of reality. When we focus on matter we are at a dead end because matter is already complete and the human mind cannot add to it anymore.
25. Quantum physics or mechanics (QP), which has emerged, is a fact of science that killed logical positivism. It counters or has superseded Newtonian Mechanics (NM) and even Einstein's (E) theory of relativity. Thus:



27. In 1925, Einstein himself said that his equation is only a subset of QP.
28. In 1982, QP was confirmed, referred to as “weird theories”. But there are already machines that are based on QP, including laptops and cellphones.
29. There are **8 regions in the mathematical explanations of quantum phenomenon**. I will deal with only a few.
30. First is “**multiverse**”, a feature of the movie “The One”. The movie star Jet Li in the movie was being killed. The Jet Li's in the other universes gained their energy/power in the process. You may also read about this or watch it in the internet ...
- [http://www.absoluteastronomy.com/topics/The\\_One\\_\(film\)](http://www.absoluteastronomy.com/topics/The_One_(film))  
[http://www.daviddarling.info/encyclopedia/P/parallel\\_universe.html](http://www.daviddarling.info/encyclopedia/P/parallel_universe.html)  
<http://goertzel.org/books/spirit/uni2.htm>

31. Another is the “**wormhole**”. This explains travel into the past.
32. A fundamental property of QP is “**non-locality**”. Things or events can affect distanced objects.
33. Did you know that there is already a quantum computer used by NASA? It uses the whole universe as hardware.
34. Knowledge is expanding exponentially. It does not increase linearly. For example a pond that is half full of plants that double daily in 28 days will need only another day to fill it completely, not another 28 days. This is a phenomenon inherent in biological systems. Organisms grow exponentially. Thus:

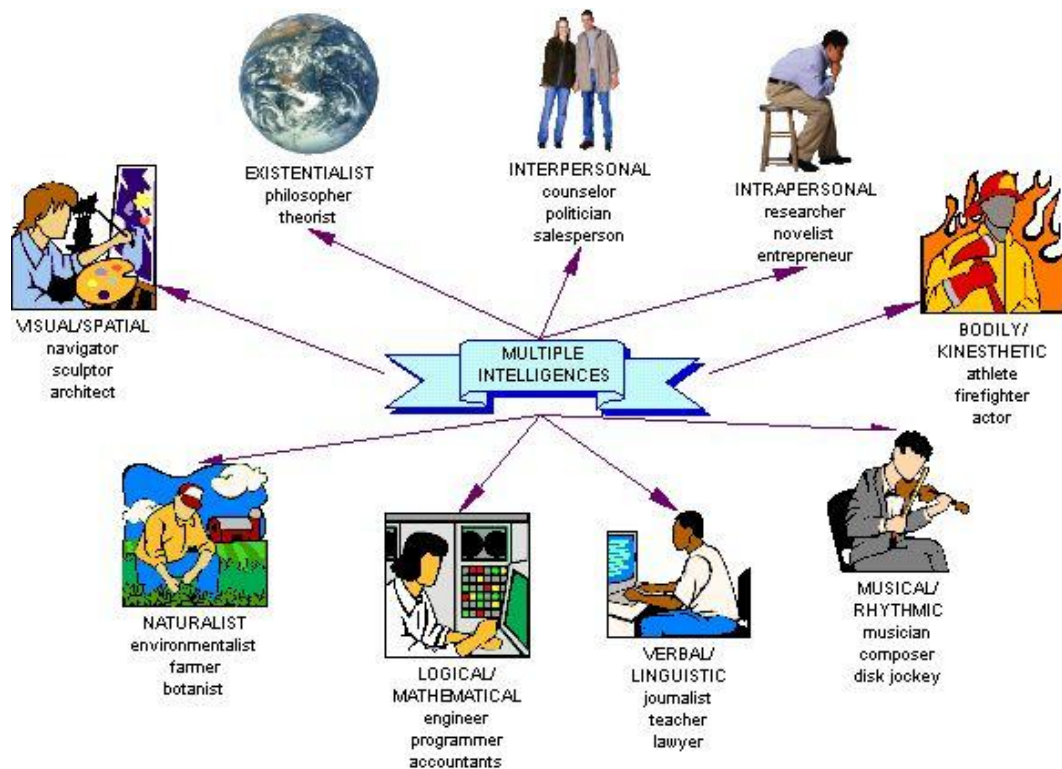


35. **The world is entering a knowledge economy (e.g. information technology and information economy). But knowledge is a spiritual process. We need to connect with each other and this needs spiritual capacity.** We need to develop the conceptual cognitive “I”. We need to see the invisible relationship in everything. A highly developed “I” can see this.
36. There is a spiritual explosion taking place in the world. I want to share this discussion with the university because of two inherent aspects or original intent of a university.
37. Education is derived from the Latin word “educō” or ‘educere” meaning to draw out. This implies that the human mind is not inherently blank or empty. Whatever its source, it is considered fact that a human being is already bringing in knowledge when it is born.
38. Academe is from a Greek word Akademos, who provided the place (thus the place is named after him). It then referred to a place used by the

philosophers to gather, discuss and to teach. It refers to the public groves where Plato taught during his time, or to any place of instruction, a school, university and alike).

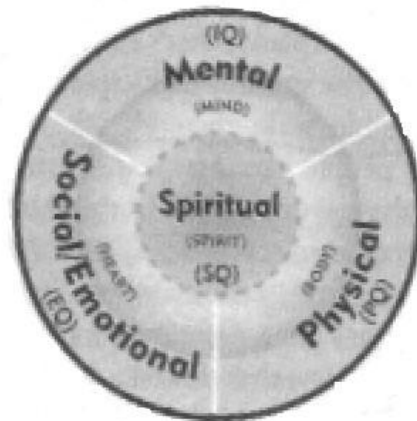
### Know Thyself, Multiple intelligence, the Spirit self

39. We are more than our IQ. The number one requirement in the Greek universities is to “know thyself”. These learning institutions seek to make students know or understand their motives, behavior, fears and hopes. If the university doesn’t do the above, it is effectively stunting the student’s learning.
40. The book “Frames of Mind: the theory of “Multiple Intelligences” by Howard Gardner is a good reading. Gardner, who is a Harvard professor, came to the Philippines last year (Feb 2005; [http://www.youtube.com/watch?v=0h\\_oCdAq9TY](http://www.youtube.com/watch?v=0h_oCdAq9TY); <http://www.mb.com.ph/node/112278> ). More than 2000 people attended his session in Manila Hotel. Thousands more were unable to fit in. Gardner said that for more than 100 years, the academe has been saying “know thyself “ only in terms of IQ only or the linguistic, logical, math capacity. Therein, only 2 out of 9 intelligences are being addressed. The different intelligences under Multiple intelligence is given below:



<http://sitemaker.umich.edu/356.martin/home>





<http://edfuturesfoundation.wordpress.com/2009/10/23/convergence-with-the-medicine-wheel-part-3-in-series/>

41. Modern science now says that the human being's heart has intelligence, and our heart is as sophisticated as the brain. It is the seat of EQ, which is what you'll need to succeed in the realms of economics, politics, culture, society, and ... the farm.
42. In the study of geniuses, it has been found that at 28 years old majority of them already failed in life. They didn't have the social skills to succeed in life. They do not know how to manage the self and to get along with others.
43. An EQ (e.g., of 85%) predicts if you will succeed in life. This also applies to a farmer. If his EQ is low, he can't fully succeed in farming.
44. Intelligence is connected with evolution (ecology). **Naturalist intelligence is with spirit**, just like **existential intelligence** (*Existential intelligence can be defined as the ability to be sensitive to, or have the capacity for, conceptualizing or tackling deeper or larger questions about human existence, such as the meaning of life, why are we born, why do we die, what is consciousness, or how did we get here.* (<http://www4.uwsp.edu/education/lwilson/learning/ninthintelligence.htm>)).
45. Meaning of our existence is important to know. But here in UPLB, we are just drifting. We don't reflect on the deeper questions about our existence.
46. The book "Purpose Driven Life" by Rick Warren sold 3.5 M copies. The reason for this popularity is our inherent need for a purpose, and education has left us to still search for meaning and purpose in life. Such need has not been cultivated in universities. Students drifted and have no anchor. Their learning has mostly been through painful experience.



47. In conclusion, among the principles of sustainable agriculture (or sustainable development, it is the human being dimension that is the key, for what is the farm without a farmer?

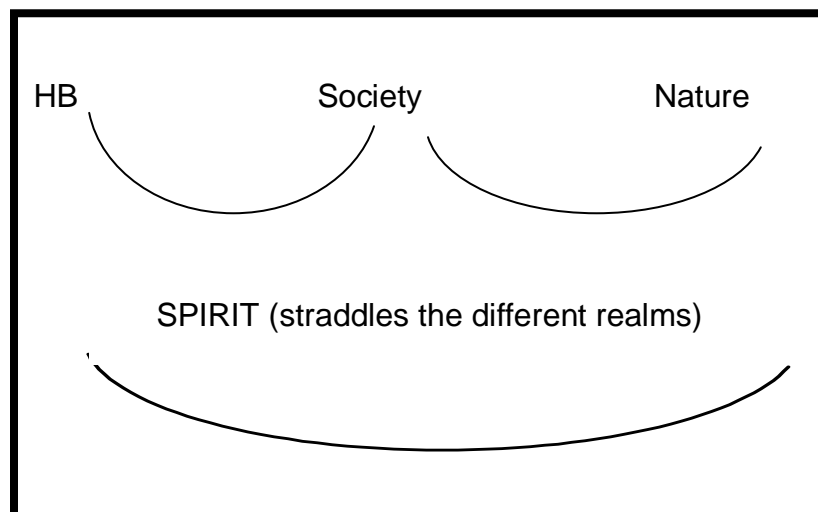
48. Moreover, all the 7 features of SA require of us a **process of perception of invisible things. If one doesn't have the capacity to see the non-visible patterns, he/she can't effectively and sustainably manage a farm.** To develop this, one must be ready to accept that SA is knowledge intensive. One needs to go through a training to awaken the inner desire of doing farming as a way of life.

### Nick's Answers to some Questions

49. Drawing out (of a person's/student's inherent knowledge) by a teacher is a dialogical process. It is time consuming. But it is amazing that **collective intelligence results when teacher and students gather together** (so this should lessen the concern that we might not learn anything through a process).

50. The **power of indigenous knowledge** is invoked in discussions about sustainable agriculture and its science; it is because much of IKS is scientific. There is intelligence of **Kinesthetics. Rituals** have scientific power.

51. Multiple approach: here is a diagram illustrating the concept of relationship of what was presented to you.



52. **Collective Intelligence** manifests in group inspiration and creativity. This is more powerful than individual intelligence. This is also opposed to groupthink.

<http://collectiveintelligencespectrum.blogspot.com/2010/01/collective->

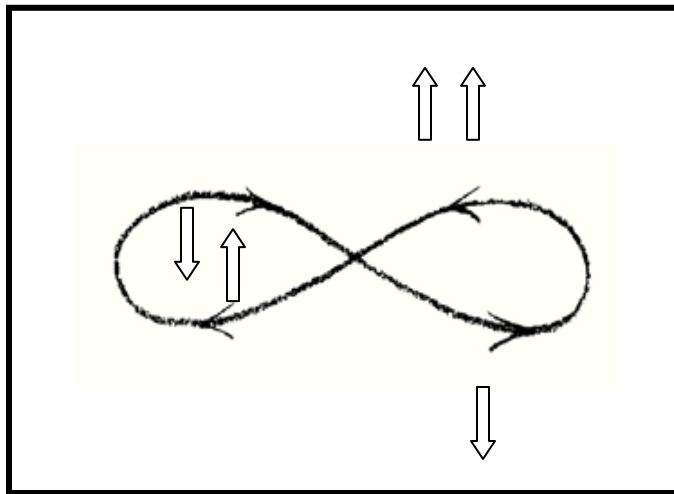
[intelligence-versus.html](http://intelligence-versus.html);  
<http://swarmonomics.wordpress.com/2009/05/15/collective-intelligence-v-groupthink/>

53. How to find **purpose in life**? We have developed a training course on social leadership based on the lemniscate process. There is no need to have a specific spiritual path (religion) for this. Remember that Christianity and Islam met in Spain. There is a convergence and coherence in the different religions.

54. What is the **role of seed in spirituality**? In the book that we wrote- "Oryza Nirvana"- we expounded how the seed became destructive. It is a critique of the green revolution and the institutions pushing it. The seed is an instrument of change. It contains the spirit of a culture, of agriculture. Through it the ecology can also be protected. The seed also carries the ecology. It is in between nature and the farm (see earlier diagram). If one practice SA, he/she is doing it on the seed as well.

[http://www.cadi.ph/oryza\\_nirvana\\_TOC.htm](http://www.cadi.ph/oryza_nirvana_TOC.htm)

55. The lemniscate ( $\infty$ ) is the symbol of infinity. Life goes through such process. It spells the alternating inner life and outer life of an organism. It is an endless process. Thus:



56. We conduct training on finding one's purpose using the lemniscate approach. This is a newly developed approach. One can go through a 2-week exercise on this.
57. When do we know that we are already there? At a younger age we thought we were there, but then later we realize that we were actually not. Our awareness of our life's purpose gets transformed at different life stages but there's a common thread that binds them together. My own has brought me to societal transformation through the three-folding or the inter-working of the realms of politics, economics and civil society, with the last providing the springboard of transformation.

**Other Comments and Reflection** from the audience (collated from audience' written notes).

58. SA is designed to respond to complex challenges that the farmer faces.
59. Deep spirituality can promote SA because it will encourage the farmers to continue farming. It will help agricultural scientists get motivated, dedicated, become more productive and more focused on their work.
60. Others...
- 1) To attain SA I need to know myself first.
  - 2) I realize that I need to believe in myself first because I am the instrument of change.
  - 3) We need to be green minded. We need to see our strengths and weaknesses as students, farmers, teachers, researchers, etc., then become disseminators ourselves.
  - 4) It is hard to do all that had been said or we must do, although I believe in it.
  - 5) Deep spirituality means we search for meaning and purpose in life.
  - 6) The key to change process is the Human Being (HB). Without inner capacity to see invisible patterns, one can't manage farm.
  - 7) It is fascinating to have a topic dealing with a search for the real purpose in life. SA and deep spirituality is true for all not just for

farmers. The target of education should not only market but the human being itself.

- 8) Amazing to realize that SA can be approached in many ways and not necessarily just talk about crops alone. Learned so many things. The speaker speaks with confidence and satisfies the audience. We need to know and understand the interrelationship of the system, of nature.
- 9) An eye-opener to everybody. Spirituality spells success in SA.
- 10) The speaker was great. He explained the issue well without use of transparencies.
- 11) Would be nice if there's power point presentation and especially with pictures.
- 12) Hope there's another seminar or even seminar series he can offer here.
- 13) Spirituality can be a means to achieve my heart's desire as well as make me do my best about my potential and leave all the worries to God.
- 14) Those on top positions need to have the necessary perspective/skill that is needed for SA.
- 15) Topic is too broad. I didn't understand much; speaker dealt on a topic briefly then jumped to another. He used only the chalkboard. Small group discussion would be helpful to understand more.
- 16) The issues touched/really moved the audience although the topic was broad and only an hour of discussion was given.
- 17) I realized that success is not just being a learned individual but of having knowledge of self, of purpose.
- 18) Topic was good and Mr. Perlas gave a wonderful performance.
- 19) The topic opened our eyes; our way of thinking is the cause why farmers are suffering.
- 20) We are studying in the university not just to gain knowledge but also to increase our awareness on happenings and to strengthen our resolve to serve humanity.

- 21) Biodynamic is good for Mindanao people. They are the ones with truly high intelligence. Elsewhere it is different because people are more detached from the environment.
- 22) I had struggled to follow some parts because I am already behind some updates; need to update because some topics/issues are highly relevant.
- 23) Agricultural scientists should have a deeper study of biodynamic farming so they can inform farmers effectively.
- 24) He gave a long introduction, thus shortened the allowed topic itself. Maybe if he had visual aids, time spent on writing on the board would be lessened.
- 25) Professors must draw out vast wisdom from the students.
- 26) It is my first time to hear it in full elaboration. I honestly didn't get the main point but I learned a lot.
- 27) Maybe farmers will be "manibago" (feel awkward at first) with biodynamic but this should help them a lot. Agricultural scientists will likely resist this because they are in their IQ mode. They need openers.
- 28) He's a "man of wisdom", a good speaker. I learned a lot.... so what is the direct relationship of SA with deep spirituality?
- 29) It is challenge to introduce SA to the whole country.
- 30) Made me realize that a certain change must happen inside of me for outside change of Philippine agriculture.
- 31) Taught me to be aware of happenings and move with care; realized how important a farmer is and how big their role is in Philippine Agriculture.

**61. Questions and comments from guests (expressed outside the venue).**

- 1) If students are not empty vessel in their heads, where did that knowledge really come from? How can it be explained to someone who doesn't believe in reincarnation?
- 2) How can we teach our technical courses given the premise that students carry within them some innate knowledge?

- 3) Wish there was or can be more discussion on deep spirituality.
- 4) If SA is difficult, what would make it less difficult? This wasn't much elaborated; I suspect it is mostly biodynamic.
- 5) Wish biodynamic was elaborated as a way to illustrate that SA doesn't have to be difficult (of course time constraint is acknowledged).
- 6) In a purpose driven life we need to define, what is life; What is our material role and our collective role for this?
- 7) Only two of 8 mentioned science had been sufficiently elaborated. Wish to know the rest.
- 8) May we be referred to books or references that discuss all the scientific basis of spirituality, practices, technology or phenomena? That would really be useful in an academic community.