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**Towards True Sustainability Step By Step Is Fine While There Is Time: Pointing Out The Unifying Nature Of True Sustainability With The Help Of The True Sustainability Wheel**

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## Abstract

The road towards true sustainability appears to be getting shorter and shorter step by step. Not long ago, economic sustainability took over social sustainability as the goal of development. This was a period of competing extreme views of development, where economy only based development became the dominant view. Then, the environmental and social sustainability issues associated with this model accumulated and became more difficult to ignore leading to green growth as the new and current goal of development. This was a period of competing partnership based development, where the eco-economy became the dominant paradigm.

Among the main goals of this paper are a) to highlight analytically and graphically that we are moving slowly step by step towards true sustainability and b) to stress how a true sustainability wheel framework can be put together to point out its unique unifying nature.

## Key words:

True sustainability, sustainability wheel, society based development, economy based development, green development, true sustainability, market variability model, extreme market models, partnership market models, the unity of sustainability.

## Introduction

It can be said that development has taken place in a way where new forms of thinking have replaced old views of the world from society based development, to economy based development, to green development, and the future true sustainability paradigm. Below a summary of the main aspects of each of these views of the world is provided in the way they have taken place or are expected to take place to give an idea of process towards true sustainability.

### i) Society as the goal of development

It can be said that just before industrialization development programs were increasingly designed with the view of society first for social protection or equality issues leading to so called welfare states. Veit-Wilson(2000 P.11) indicates that according to historian Asa Briggs the term “Welfare State” was first used in the UK after 1945. In other words, it can be said that the first wave of markets was one of society oriented markets. In terms of agricultural development the traditional period is said to be from sedentary times to before the green revolution that started in 1947 and the industrialization period go from the green revolution to now(Muñoz 2008). Hence, in this society first model the environment and the economy were there to meet social goals only. So, social sustainability is by definition not economy and environment friendly at the same time.

### **ii) The economy as the goal of development**

It can be said that industrialization brought to the front a development model that places markets first leading to the so called pure economic model. In other words, it can be said that the second wave of markets is one of economy first markets and they took over the society first markets. Pure economic thinking has been behind the structure of traditional sweatshops(Muñoz 2012). Therefore, in this pure economy model the society and the environment exist only to meet economic goals. In other words, economic sustainability is by design not socially and environmentally friendly at the same time.

### **iii) The green economy as the goal of development**

It can be said that when environmental issues such as global warming and environmental degradation and pollution associated to economy only based development could no longer be ignored, then the goal of development had to be adjusted to place the green economy first leading to the so called eco-economic model, which has taken over the economy only based models. See that the green growth model reflects the official strategy of OECD countries now(OECD 2011) as it is the dominant view of development today so much that OECD has created an interdisciplinary forum apparently to make sure that previously relevant sustainable economic development thinking meets now green growth requirements(OECD 2012).

In other words, the third way of markets is one of eco-economy first markets, which have replaced now the economy first models. The internal structure of the general green economy and of the green agricultural economy was recently highlighted(Muñoz 2011). So in this eco-economic model society is there only to meet green growth goals. Hence, eco-economic sustainability is by internal structure not socially friendly. And notice that deep green markets never existed as environmental issues are relatively very new issues as compared to social and economic issues; and those socio-economic models and socio-environmental models are not strong competitors of green growth models.

### **iv) Towards true sustainability step by step**

It is accepted that true sustainability is the type of development that integrates social, economic, and environmental goals at the same time. As put by OECD economic markets that foster more social fairness within environmental limits reflect sustainability requirements(OECD 2008). And a stronger institutional system for global sustainable development, one that among other things reflects its social pillars better has just been recommended(ICPUP 2012); and the need to ensure that green growth under sustainable development is inclusive is now stressed(WB 2012). And the basic foundations to building a global sustainability system that is socially

friendly were pointed out a few years ago (Muñoz 2003). Then, as green economic growth becomes socially friendly it will approach true sustainability; and lead to the fourth wave of markets, one of true sustainability markets. In other words, the current development model placing green growth first is only one step away from true sustainability since true sustainability is socially, economically, and environmentally friendly at the same time. True sustainability ideas point to the need to make eco-economic models fully socially friendly (Muñoz 2003). Hence, one way of approaching true sustainability is by making green growth fully socially friendly.

#### **v) The need to present true sustainability ideas in simple terms**

True sustainability ideas are usually presented in complicated types of discourse. And this allows, intentionally or not, to confuse the nature of true sustainability with the nature of all other types of development options that are possible when there should not be any room for confusion. For example, in the publication “Sustainable Development” OECD officials define sustainability, not sustainable development, as socially and environmentally friendly economic development; and then they proceed to use the concept of sustainability as meaning sustainable development (OECD 2008) when we know they are different concepts. Also ideas about global sustainable development appear to be presented as being global sustainability when the ideas and frameworks proposed are related to global green growth governance only (ICPUP 2012). It has been shown recently analytically that sustainable development is not true sustainability because only true sustainability is optimal development; and sustainable development refers to all forms of sustained development (Muñoz 2010), which highlights the need to move away from using confusing concepts such as sustainable development to properly deal with true sustainability issues (Muñoz 2009). One of the goals of this paper is to highlight the unifying nature of true sustainability with the aid of the true sustainability wheel.

#### **Goals**

This paper has three main goals: a) To highlight analytically and graphically that we are moving slowly step by step towards true sustainability; b) To stress how a true sustainability wheel framework can be put together to point out its unique unifying nature; and c) To use the framework above to show that true sustainability is the next evolutionary development step after the current green growth model is made fully socially friendly.

#### **Methodology**

First, the terminology used in this paper is presented. Second, some operational concepts needed to present the ideas in this paper are detailed. Third, a general market variability model is shared and used to indicate different possible market models. Fourth, the nature of each of the three possible extreme market models is presented analytically and graphically; and their relevant implications are summarized.

Fifth, the structure of each of the three possible market partnership models is described analytically and graphically; and their main implications are indicated. Sixth, the unifying nature of the true sustainability model is pointed out analytically and then summarized graphically by the true sustainability wheel. Seventh, the framework above is used to highlight that true

sustainability is the next evolutionary development step after the current green growth model. And finally, some important conclusions are provided.

## Terminology

The qualitative comparative terminology used in this paper is listed in Table 1 below:

Table 1

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R = Active regulation	$R_A$ = Active social regulation
$R_B$ = Active economic regulation	I = Active incentives
$R_C$ = Active environmental regulation	$I_A$ = Active social incentives
$I_B$ = Active economic incentives	r = Passive regulation
$I_C$ = Active environmental incentives	i = Passive incentives
$r_a$ = Passive social regulation	$i_a$ = Passive social incentives
$r_b$ = Passive economic regulation	A = Active social system
$r_c$ = Passive environmental regulation	B = Active economic system
$i_b$ = Passive economic incentives	a = Passive social system
$i_c$ = Passive environmental incentives	M = Market exist
C = Active environmental system	m = No market exist
b = Passive economic system	DM = Deep market
c = Passive environmental system	WM = Partnership market
S = True sustainability market	PM = Passive market
SG = System sustainability gap	RSG = Regulation sustainability gap
ISG = Incentive sustainability gap	$M_A$ = Social market

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## Operational concepts

### i) General merging rules

If we have two dominant systems  $K_{12} = K_1K_2$  and  $L_{12} = L_1L_2$  and two dominated systems  $k_{12} = k_1k_2$  and  $l_{12} = l_1l_2$ , the following merging rules are expected to hold:

- |   |   |
|---|---|
| a) $K_{12}K_{12} \rightarrow K_{12}$            | b) $L_{12}L_{12} \rightarrow L_{12}$            |
| c) $k_{12}k_{12} \rightarrow k_{12}$            | d) $l_{12}l_{12} \rightarrow l_{12}$            |
| e) $K_1K_1 \rightarrow K_1$                     | f) $L_1L_1 \rightarrow L_1$                     |
| g) $k_1k_1 \rightarrow k_1$                     | h) $l_1l_1 \rightarrow l_1$                     |
| i) $K_1K_2 \rightarrow K_{12}$                  | j) $k_1k_2 \rightarrow k_{12}$                  |
| k) $L_1L_2 \rightarrow L_{12}$                  | l) $l_1l_2 \rightarrow l_{12}$                  |
| m) $K_1l_1 \rightarrow K_1l_1$                  | n) $k_1L_1 \rightarrow k_1L_1$                  |
| o) $K_2l_2 \rightarrow K_2l_2$                  | p) $k_2L_2 \rightarrow k_2L_2$                  |
| r) $K_1K_2.l_1l_2 \rightarrow (K_1l_1)(K_2l_2)$ | s) $k_1k_2.L_1L_2 \rightarrow (k_1L_1)(k_2L_2)$ |
| t) $K_{12}k_{12} \rightarrow K_{12}k_{12}$      | u) $K_1K_2k_1k_2 \rightarrow (K_1k_1)(K_2k_2)$  |
| v) $L_{12}l_{12} \rightarrow L_{12}l_{12}$      | w) $L_1L_2l_1l_2 \rightarrow (L_1l_1)(L_2l_2)$  |

**ii) Dominant market system**, refers to a active system

For example, below we have market  $M_1$  with a dominant social system(A); and market  $M_2$  with a dominant economic system(B):

$$M_1 = M_A = A \quad M_2 = M_B = B$$

Hence, both  $M_1$  and  $M_2$  above are deep markets(DM), one deep social market(A) and the other a deep economic market(B).

**iii) Dominant market conjunctural causality**, refers to a dominant system with binding incentives and regulatory structures at the same time.

For example, below we have a dominant social market( $M_A$ ) with binding incentive( $I_A$ ) and regulatory( $R_A$ ); and a dominant economic market( $M_B$ ) also with binding incentives( $I_B$ ) and regulatory( $R_B$ ) structure:

$$M_A = A = I_AR_A \quad M_B = B = I_BR_B$$

**iv) Dominated market system**, refers to a passive system.

For example, below we have market  $M_3$  with a passive environmental system(c); and market  $M_4$  with a dominated social system(a):

$$M_3 = M_c = c \quad M_4 = M_a = a$$

Therefore, both  $M_3$  and  $M_4$  above are passive markets(PM), one passive environmental market(c) and the other a passive social market(a).

**v) Dominated market conjunctural causality**, refers to a system with non-binding incentives and regulatory structures at the same time.

For example, below we have a dominated environmental market( $M_c$ ) with non-binding incentive( $i_c$ ) and regulatory( $r_c$ ) structures; and a dominated social ( $M_a$ ) also with non-binding incentives( $i_a$ ) and regulatory( $r_a$ ) structure:

$$M_c = i_c r_c \quad M_a = i_a r_a$$

**vi) System merging rules**

When we combine markets, merging can take place as shown below:

**a) Dominant-dominant system merger**

If we have two dominant markets, a society only market(A) and an economy only market(B), it can be represented as follows:

$$1) M_1 = M_A = A \quad M_2 = M_B = B$$

If we combine the two markets into market  $M_{12}$  we get the following:

$$2) M_1 M_2 = M_A M_B = AB$$

Since  $M_1 M_2 \rightarrow M_{12}$  ;  $M_A M_B \rightarrow M_{AB}$  ; and  $AB \rightarrow AB$ , then the following is true:

$$3) M_{12} = M_{AB} = AB$$

Now since  $A = I_A R_A$  and  $B = I_B R_B$ , when we substitute this on formula 3 above we get:

$$4) M_{12} = M_{AB} = (I_A R_A)(I_B R_B)$$

When we group all incentives(I) and we group all regulatory structures(R), we get the following:

$$5) M_{12} = M_{AB} = (I_A I_B)(R_A R_B)$$

Following the merging rules in section i) above we have that  $I_A I_B \rightarrow I_{AB}$  and  $R_A R_B \rightarrow R_{AB}$  and then the following happens:

$$6) M_{12} = M_{AB} = I_{AB} R_{AB}$$

The formula above says that the socio-economic model  $M_{AB}$  has dominant socio-economic incentives( $I_{AB}$ ) and binding socio-economic regulation( $R_{AB}$ ) at the same time. Also notice that the socio-economic model  $M_{AB}$  is a partnership based model(WM) as both social and economic structures are acting conjuncturally in dominant form.

**b) Dominated-dominated system merger**

If we have two dominated markets, an environmental market(c) and a society only market(a), it can be represented as follows:

$$7) M_3 = M_c = c \quad M_4 = M_a = a$$

If we combine the two markets into market  $M_{34}$  we get the following:

$$8) M_3M_4 = M_cM_a = ca$$

Since  $M_3M_4 \rightarrow M_{34}$  ;  $M_cM_a \rightarrow M_{ca}$  ; and  $ca \rightarrow ca$ , then the following is true:

$$9) M_{34} = M_{ca} = ca$$

Since  $c = i_c r_c$  and  $a = i_a r_a$  when we substitute this on formula 9 above we get:

$$10) M_{34} = M_{ca} = (i_c r_c)(i_a r_a)$$

When we group all non-binding incentives(i) and we group all non-binding regulatory structures(r), we get the following:

$$11) M_{34} = M_{ca} = (i_c i_a)(r_c r_a)$$

Following the merging rules in section i) above we have that  $i_c i_a \rightarrow i_{ca}$  and  $r_c r_a \rightarrow r_{ca}$  and then the following happens:

$$12) M_{34} = M_{ca} = i_{ca} r_{ca}$$

The formula above says that the dominated enviro-social model  $M_{ca}$  has non-binding enviro-social incentives( $i_{ca}$ ) and non-binding enviro-social regulation( $r_{ca}$ ) at the same time.

**c) Dominant-dominated system merger**

If we have two markets, a dominant social market(A) and a dominated environmental only market(c), they can be represented as follows:

$$13) M_1 = M_A = A \quad M_3 = M_c = c$$

If we combine the two markets into market  $M_{13}$  we get the following:

$$14) M_1M_3 = M_A M_c = Ac$$

Since  $M_1M_3 \rightarrow M_{13}$  ;  $M_A M_c \rightarrow M_{Ac}$  ; and  $A_c \rightarrow Ac$ , then the following is true:

$$15) M_{13} = M_{Ac} = Ac$$

Since  $A = I_A R_A$  and  $c = i_c r_c$ , when we substitute this on formula 15 above we get:

$$16) M_{13} = M_{Ac} = (I_A R_A)(i_c r_c)$$

When we group the incentive structures and the regulation structures we get the following:

$$17) M_{13} = M_{Ac} = (I_A i_c)(R_A r_c)$$

We can see that in formula 17 above, that when we have dominant-dominated system interactions such as in this socio-environmental system their incentives structures and their regulatory structures cannot be merged creating system sustainability gaps(SG), incentive sustainability gaps(ISG) and regulation sustainability gaps(RSG).

**vii) Sustainability gaps**, refers to when we have inconsistencies in terms of interacting system types and system structures.

For example, model  $M_{Ac}$  in formula 15 above has an environmental sustainability gap( $ESG = Ac$ ) as the environment is the dominated system; and it has environmental incentive sustainability gaps( $EISG = I_A i_c$ ) and environmental regulatory sustainability gaps( $ERSG = R_A r_c$ ).

With the information above we can rewrite formula 17 as follows:

$$18) M_{13} = M_{Ac} = (I_A i_c)(R_A r_c) = EISG.ERSG$$

Hence, the formula above says that the model  $M_{13}$  is defined by the conjunctural interaction of environmental incentives sustainability gaps(EISG) and environmental regulation sustainability gaps(ERSG). And therefore, this system is subjected to ongoing environmental unsustainability.

**viii) Internal consistency**, refers to when a specific system has consistent structures, be it dominant or dominated.

For example, in formula 4 above we can see that both the dominant social system(A) and the dominant economic system(B) have binding incentives and regulatory structures at the same time; and therefore, each of them has internal dominant consistency.

**ix) External consistency**, refers to when there is system to system consistency, dominant or dominated; and merging can take place.

For example, formula 6 above indicates that since both dominant systems social(A) and economic(B) have internal dominant consistency, then their system structures, incentives and regulations can be merged.

**x) Partial consistency**, refers to when different component of a system have internal consistency, but not external consistency.

For example, in formula 16 and 17 above the dominant social system has internal dominant consistency and the dominated environmental system has dominated internal consistency; and therefore, they have no external consistency and cannot be merged as such.

**xi) Full consistency**, refers to when all components of the system have the same type of consistency; and therefore, external consistency exist.

For example, in formula 12 above the dominated enviro-social system  $M_{ca}$  has external consistency and therefore, full consistency and they can be merged.

**xii) Specific system sustainability**, refers to when a system has internal consistency

For example, in formula 1 above the social market( $M_A$ ) and the economic market( $M_B$ ), both have internal dominant consistency so each of them has specific system sustainability.

**xiii) Specific sub-system sustainability**, refers to when a sub-system has internal consistency or partial dominant consistency.

For example, if we had a system with the following structure:

19)  $M_5 = ABc$

Then, market  $M_5$  has socio-economic dominant consistency; and therefore it has specific subsystem sustainability in the form of socio-economic sustainability( $AB$ ). But since  $M_5$  has an environmental sustainability gap( $c$ ), it only has partial dominant consistency; and therefore merging can only take place within the dominant components.

**xiv) General system sustainability**, refers to when there is internal and external consistency at the same time or full dominant system consistency.

For example, if we had a system with the following structure:

20)  $M_7 = ABC$

Then, market  $M_7$  has socio-eco-ecological dominant consistency; and therefore it has full dominant system sustainability in the form of socio-eco-environmental sustainability( $ABC$ ) or true sustainability. And since  $M_7$  does not have any sustainability gap it has full dominant consistency. See that there are no dominated counterparts here, all components of the system are in dominant form so full merging can take place.

### **The market variability model(M)**

There can be many different types of markets( $M$ ) depending on which component social( $A$ ), economic( $B$ ), and environmental( $C$ ) are present in dominant form, which can be expressed as follows:

$$M = A + B + C$$

The different types of markets that can be derived from the formula above can be classified as deep view markets(DM), partnership based markets(WM), and the true sustainability market(S), all of which are summarized in Table 2 below:

**Table 2**

Column 1 Type of Market	Column 2 Market Structure	Column 2 Dominant Structure	Column 3 Incentive/ Regulatory Structure	Type of Sustaina bility
Deep view markets				
M1 =	Abc =	A =	$I_A R_A = I_A R_A =$	Specific
M2 =	aBc =	B =	$I_B R_B = I_B R_B =$	Specific
M3 =	abC =	C =	$I_C R_C = I_C R_C =$	Specific
Partnership based markets				
M4 =	ABc =	AB =	$(I_A R_A)(I_B R_B) = I_{AB} R_{AB} =$	Specific
M5 =	aBC =	BC =	$(I_B R_B)(I_C R_C) = I_{BC} R_{BC} =$	Specific
M6 =	AbC =	AC =	$(I_A R_A)(I_C R_C) = I_{AC} R_{AC} =$	Specific
True sustainability market				
M7 =	ABC =	ABC =	$(I_A R_A)(I_B R_B)(I_C R_C) = I_{ABC} R_{ABC} =$	General

***ia) Deep view markets, analytically***

There are three types of extreme view markets(DM) according to Table 2 above, the deep welfare state market( $M_A = M_1$ ), deep economic market state( $M_B = M_2$ ), and the deep green market state( $M_C = M_3$ ). Below some of their main characteristics are summarized.

**ia1) The deep social market state( $M_A$ )**

In this market, only society(A) matters and therefore, only social incentives( $I_A$ ) and social regulation( $R_A$ ) matter, indicating specific social system sustainability:

$$M_A = M_1 = A = I_A R_A$$

**ia2) The deep economic market state( $M_B$ )**

In this deep market, only the economy(B) matters and therefore, only economic incentives( $I_B$ ) and economic regulation( $R_B$ ) are relevant, indicating specific economic system sustainability:

$$M_B = M_2 = B = I_B R_B$$

**ia3) The deep green market state**

In this green market, only the environment(C) matters and therefore, only environmental incentives( $I_C$ ) and environmental regulation( $R_C$ ) are relevant, indicating specific environmental system sustainability:

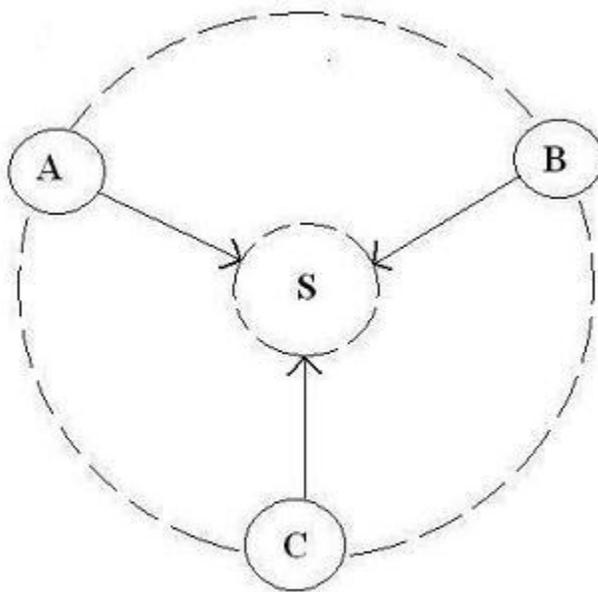
$$M_C = M_3 = C = I_C R_C$$

**ia4) Market evolution:**

As mentioned in the introduction, it can be said that 1) the deep social market( $M_A$ ) existed first and it held strong until before the industrial revolution; 2) after the industrial revolution, the deep economy market( $M_B$ ) took over or replaced the deep social market( $M_A$ ); and 3) the deep green market( $M_C$ ) never existed as environmental concerns are relatively very recent issues as compared to socio-economic issues.

***ib) Deep view markets, graphically***

The extreme unsustainability wheel shown in Figure 1 below shows the three deep models, society(A), economy(B) and environment(C) as standalone models.



**Figure 1 The extreme unsustainability wheel**

Notice the following in Figure 1 above: 1) the circle surrounding each deep system(A,B,C) is of continuous line indicating in each case the existence of internal consistency and therefore of specific system sustainability; 2) that the broken circle connecting the three deep models(A,B,C) indicates the absence of external consistency; and 3) the arrows from each deep system(A,B,C) connecting to a broken circle around “S” indicate the lack of general system sustainability.

***ii) The partnership based markets, analytically***

There are three types of partnership based markets(WM) according to Table 2 above, the socio-economic partnership market( $M_{AB} = M_4$ ), the eco-economic partnership market( $M_{BC} = M_5$ ), and the socio-environmental partnership market( $M_{AC} = M_6$ ). Below some of their main characteristics are indicated.

***ii)1) The socio-economic partnership( $M_{AB}$ )***

In the socio-economic market, only the society and the economy(AB) matter; and therefore, only socio-economic incentives( $I_{AB}$ ) and socio-economic regulation( $R_{AB}$ ) matter, pointing to specific subsystem sustainability in this case the socio-economic partnership sustainability:

$$M_{AB} = M_4 = AB = (I_A R_A)(I_B R_B) = I_{AB} R_{AB}$$

***ii)2) The eco-economic partnership( $M_{BC}$ )***

In the eco-economic market, only the environment and the economy(BC) are relevant; and therefore, only eco-economic incentives( $I_{BC}$ ) and eco-economic regulation( $R_{BC}$ ) matter, indicating specific subsystem sustainability in this case of the form eco-economic partnership sustainability:

$$M_{BC} = M_5 = BC = (I_B R_B)(I_C R_C) = I_{BC} R_{BC}$$

***ii)3) The socio-environmental partnership( $M_{AC}$ )***

In the socio-environmental market, only the society and the environment(AC) are important; and therefore, only socio-environmental incentives( $I_{AC}$ ) and socio-environmental regulation( $R_{AC}$ ) matter, showing specific subsystem sustainability, in this case the socio-environmental partnership sustainability:

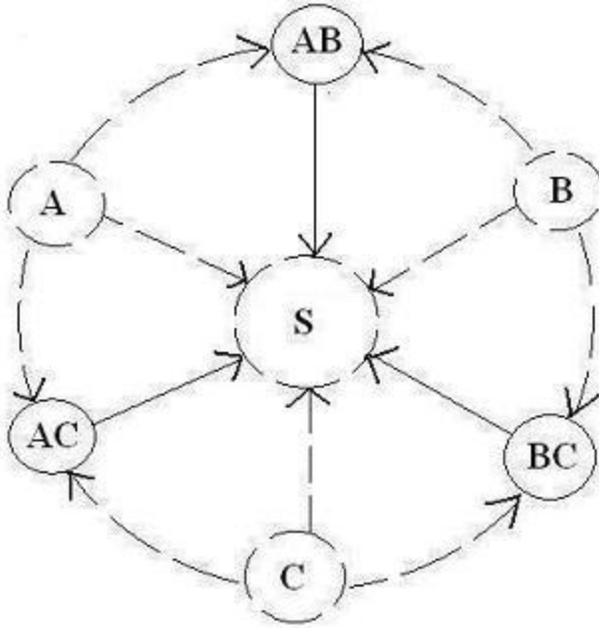
$$M_{AC} = M_6 = AC = (I_A R_A)(I_C R_C) = I_{AC} R_{AC}$$

***ii)4) Market evolution:***

As mentioned in the introduction, the dominant partnership today locally and globally is the eco-economic partnership( $M_{BC}$ ) as the other two partnerships, socio-economic( $M_{AB}$ ) and socio-environmental( $M_{AC}$ ) have failed so far to materialize as strong competitive paradigms.

***ii) Partnership based markets(WM), graphically***

The partnership based unsustainability wheel shown in Figure 2 below highlights the three partnership based models, socio-economic(AB), eco-economy(BC) and socio-environmental(AC) as standalone partnership based models.



**Figure 2 The partnership based unsustainability wheel**

See the following in Figure 2 above: 1) the circle surrounding each partnership based system(AC,AB,BC) is of continuous line indicating the existence of internal subsystem consistency and therefore of specific sub-system sustainability: 2) that the broken circle connecting the three partnership based models(AC,AB,BC) points out the absence of external consistency; and 3) the arrows from each partnership based system(AC, AB, BC) connecting to a broken circle around “S” indicate the lack of general system sustainability.

***iiia) The true sustainability model(S), analytically.***

There is only one true sustainability model(S) according to Table 2 above, model  $M_{ABC} = M_7$ .

**iiia1) The structure of the true sustainability model:**

$$M_{ABC} = M_7 = S = ABC = (I_A R_A)(I_B R_B)(I_C R_C) = I_{ABC} R_{ABC}$$

The formula above highlights that in the true sustainability market(S) all components, social(A), economic(B), and environmental(C) matter at the same as well as their incentives and regulatory structures. And this indicates the existence of internal and external consistency at the same time; and therefore, the existence of general system sustainability. And these characteristics underline the unifying nature of true sustainability(S).

**iiia2) Market evolution**

It can be seen that the next step after the eco-economic model( $M_{BC}$ ) or green growth only model is the true sustainability model( $M_{ABC}$ ); and for this to happens, the eco-economic model needs to be made fully socially friendly(A), which can be stated as follows:

$$S = A(M_{BC}) = AM_{BC}$$

The formula above simply says that true sustainability(S) exists when the eco-economic model( $M_{BC}$ ) is made fully socially friendly(A).

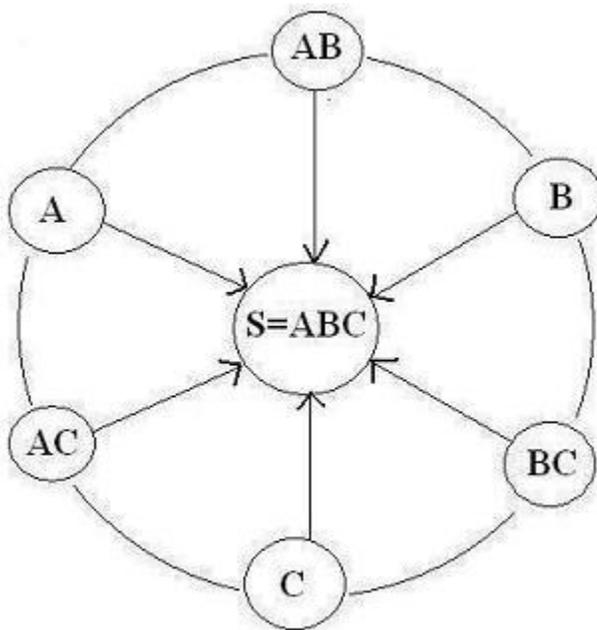
Notice that since  $M_{BC} = BC$ , then the following is true:

$$S = AM_{BC} = A(BC) = ABC$$

Hence, making the eco-economic model( $M_{BC}$ ) fully socially friendly(A) leads to true sustainability(S). In other words, the green growth model( $M_{BC}$ ) is just one step away from true sustainability(S); and as long as there is time this step by step approach towards true sustainability is fine. However, if eco-economic development is not made socially friendly it will be subjected to ongoing social unsustainability; and as social unsustainability is maximized, it may lead to local and global eco-economic collapse.

**iiib) The true sustainability market(S) graphically**

The true sustainability wheel shown in Figure 3 below stresses the unifying nature of true sustainability.



**Figure 3 The true sustainability wheel**

You can appreciate the following in Figure 3 above: 1) the circle surrounding each component of the system is of continuous line indicating the existence of internal system(A,B,C) and subsystem(AC,AB,BC) consistency; and therefore of specific system and sub-system sustainability: 2) that the continuous line circle connecting all components of the system points out the existence of external consistency; and 3) the arrows from each specific system and partnership based system connecting to a continuous line circle around “S” indicate the existence of general system sustainability. In other words, under true sustainability(S), there is general and system specific sustainability at the same time, which highlights the unifying nature of true sustainability.

### **Different ways towards true sustainability**

Figure 2 and Figure 3 above help us to see that there are three different ways we can approach true sustainability:

#### ***a) Making socio-environmental partnerships fully economy friendly***

If we subject the socio-environmental partnership(AC) to making it economy friendly(B), we get the following:

$$AC(B) = ABC = S$$

Hence, true sustainability(S) can result from a fully economy friendly(B) socio-environmental market(AC).

#### ***b) Making socio-economic partnerships fully environmentally friendly***

If we subject the socio-economic partnership(AB) to making it environmentally friendly(C), we get the following:

$$AB(C) = ABC = S$$

Therefore, true sustainability(S) can result from a fully environmentally friendly(BC) socio-economic market(AB).

#### ***c) Making eco-economic partnerships fully socially friendly***

If we subject the eco-economic partnership(BC) to making it socially friendly(A), we get the following:

$$BC(A) = ABC = S$$

So, true sustainability(S) can result from a fully socially friendly(A) eco-economic market(BC).

### **The need to go beyond partnership based markets**

It can be seen from the discussion above that true sustainability requires the need to go beyond just partnership based markets; and since the dominant partnership based market today is the green market, then true sustainability requires that green markets need to be made fully socially friendly in order to be consistent with general and specific sustainability rules. In other words, if true sustainability is the goal, green markets must be made fully socially friendly to avoid local and global social unsustainability in the long-term.

### **Specific conclusions**

First, the nature and implications of deep view development models was highlighted analytically and graphically indicating that they only have internal specific system consistency. The extreme unsustainability wheel was used to give a clear idea on how unsustainable development can be when only each specific system best interest matters and the concerns of

others are left out. Second, the nature and implications of partnership based markets was pointed out analytically and graphically indicating again that they only have internal subsystem specific consistency. The partnership based unsustainability wheel was shared to highlight that development is unsustainable under competing partnership based paradigms too as they advocate only the best interest of each partnership as the concerns of non-partners do not matter.

And finally, the nature and implications of the true sustainability market was indicated analytically and graphically stressing that it has internal and external consistency at the same time; and therefore, it is consistent with general sustainability requirements. The true sustainability wheel was presented to point out the unifying nature of true sustainability as it includes all components, social, economic, and environmental, at the same time in dominant form.

### **General conclusions**

It was highlighted analytically and graphically that we are moving slowly step by step from extreme to more inclusive forms of development. The true sustainability wheel was introduced to show visually in simple terms the unifying nature of true sustainability as well as to point out the necessary and sufficient conditions for it to take place. Then, it was indicated that green growth, the dominant market partnership today, is only one step away from true sustainability as it does not have the social system in dominant form yet. It was also highlighted that there are two other ways besides making green growth socially friendly to approach true sustainability.

And finally, it was restated that when and if green growth is made fully socially friendly, it will approach true sustainability. Therefore, the eco-economic model is just one step away from true sustainability as it is not socially friendly yet. And this step by step approach towards sustainability as long as there is time is fine.

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