

## **Post-2015 Education Agenda: Greening Rural Transformation**

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### **Abstract**

*The paper is intended to be a thematic think piece on education and skills for sustainable development beyond 2015 with a focus on rural transformation.*

*The discourse on the education and development agenda in the post-2015 era at global and national level continues. Sustainable development and all the implications of it for global and national development in fighting poverty and enhancing human dignity and rights are central to the vision of the “World We Want.” The plight of the world’s poor, the majority of whom are and will remain rural in the foreseeable future, need to figure prominently in this discourse. How the rural majority can change their situation by empowering themselves with education, knowledge and skills and can redefine rural and national transformation are still the critical question.*

*Climate change and its environmental consequences affect the poor disproportionately and have far-reaching consequences for agricultural and rural development. As a major source of greenhouse gas (GHG) emissions, agriculture also has huge potential to reduce emissions through reduced deforestation and changes in land use and agricultural practices. But this potential has to be realised in ways that reduce poverty of the rural majority and promote the development of rural areas.*

*The paper discusses: a) the nature and significance of green development – how climate change impacts the rural poor; b) greening of rural transformation – sustainability issues in agriculture and rural economy; c) skills and capacity needs for sustainable rural transformation; and d) promoting skills and jobs for the green rural transformation as a part of the education agenda.*

*The discussion is placed in the context of on-going deliberations on post-2015 EFA agenda and put forward, from the point of view of rural transformation and green development, the essential elements of the future education agenda to be finalized in the Global EFA conference in Korea in 2015.*

**Key words:** *Post-2015 Education Agenda, Education for Rural Transformation (ERT), Green skills and jobs, Education for Sustainable Development (ESD), ERT and ESD.*

## **1. Background**

In the 4<sup>th</sup> ERT Conference at Kasetsart University in 2013, I presented a paper under the title ERT Challenges in Post-2015 Era. I have to remind ourselves of the main arguments made in that paper because the concerns raised then remain equally urgent today.

In the paper last year, a background of the on-going discourse on post-2015 global development agenda was provided; key points from the UN Secretary General’s report in 2013 on MDG progress and the process of formulating the future development agenda were noted; and a quick analysis of the recommendations of the High Level Panel on post-2015 agenda and the work of the Sustainable Development Solutions Network was given from the perspective of Education for Rural Transformation (ERT). It was concluded that the premise and rationale of ERT had not received enough attention in the future development agenda discourse. Has the situation changed much in the intervening year? (Ahmed, 2014)

The basic rationale for ERT and the need for special attention to ERT, it may be recalled, is that poor rural people find it very difficult to manage the multiple risks they face arising from their personal and household circumstances, the natural and climatic hazards, and their economic and development situation at national and global levels. The rural poor, the majority of the poor in most developing countries, therefore, cannot seize the opportunities that may exist or arise for them in agriculture and the non-farm economy alike. Moreover, the overarching global and national challenges of fighting poverty and building the sustainable future cannot be met unless the problems facing the rural majority in the developing countries are effectively addressed (Ahmed 2014; UNESCO-INRULED, 2012).

I had argued then that climate change affects the poor disproportionately and has far-reaching consequences for agricultural and rural development. Effects of climate change make poor people the first victims and the greatest sufferers of environmental degradation. At the same time, as a major source of greenhouse gas (GHG) emissions, agriculture has huge potential to reduce emissions through reduced deforestation and changes in land use and agricultural practices.

The rural poor are more vulnerable than others when it comes to environmental hazards and environment-related conflicts of interest, and are least able to cope with them when they occur. They also tend to be most dependent on the natural environment and on the direct use of natural resources, and are therefore most severely affected by environmental degradation and lack of access to natural resources.

To sum up the arguments made then, the priority for transition to a green economy requires an integrated view of urban and rural areas, with special attention to agriculture and related economic activities, rural areas, and rural people, if only because the rural people constitute the majority who are affected and they also can contribute to the solutions.

## **2. The post 2015 dialogue mechanism**

Emerging from the RIO+20 conference in 2012 was two important decisions. First, it was decided that an Open Working Group (OWG) at the United Nations should be set up to serve as the forum for state representatives and other stakeholders including civil society and the academia to engage in negotiations about the post-2015 global development agenda. The second decision was to establish an active coalition called the Sustainable Development Solutions Network (SDSN) to provide the intellectual inputs for the global negotiation for the post-2015 agenda, keeping sustainable development as the focus. SDSN prepared relevant briefs which influenced the High Level Panel (HLP) on Post-2015 Agenda appointed by the UN Secretary-General and the UN Open Working Group process.

I noted last year that SDSN brief on sustainable agriculture and food systems raised pertinent questions about agricultural development but, these were largely inward-looking, in defining

problems and finding solutions within the agriculture sector and the rural areas. The interface and interconnections between agriculture-rural to national-urban-global were neglected or received only passing mention (Ahmed, 2014).

SDSN position on cities proposed a stand-alone global goal for urbanization. It did not consider an integrated, mutually supportive urban- rural regional development goal. The “cities” document made one reference to “rural” in mentioning that sustainable urbanization must address the needs of both rural and urban areas. But then the rest of the text ignored the possibility of mutual complementarity (Ibid.)

It was pointed out that SDSN in its education brief proposed and was influential in getting accepted widely a simple and powerful education goal for post-2015 agenda to “ensure effective learning for all children and youth for life and livelihood.” It also proposed sub-goals and indicators related to early childhood development, quality basic education for children and youth and relating education to skills and employment. The persistent disadvantages of rural populations and the need for affirmative action to overcome the serious disparities where they exist were not given attention. Expanding lifelong learning, particularly relevant in ERT, was neglected (Ibid.).

### **3. SDSN Action Agenda - has the discourse advanced?**

Has there been any shift in the state of discourse and the thinking about the implications for ERT in the past year? In answering this question we can look at the latest versions of two key documents. The first one is the updated action agenda for sustainable development of SDSN. SDSN came out with an update in May 2014 of the *Action Agenda for Sustainable Development - Report for the UN Secretary General* which was originally published in June 2013. The second document is the outcome from the Open Working Group adopted in July 2014 at the United Nations. Comments of some stakeholders on the OWG outcome document also can be considered..

The updated SDSN Action Agenda proposed a global framework for cooperation to address four dimensions of sustainable development (adding governance as the fourth dimension to economic, social and environmental dimensions commonly mentioned thus far). It also presented what it called four related normative concepts to guide action: (i) the right to development for every country, (ii) human rights and social inclusion, (iii) convergence of living standards across countries, and (iv) shared responsibilities and opportunities. It argued as before for a limited number of priorities and associated goals – “probably not more than ten.” (SDSN, 2014)

It went on to restate the ten SDG goals it had proposed earlier, no. 1 being the ending of “extreme poverty and hunger” in the world by 2030. (See Annex 1 for a list of the latest version of the 10 SDSN- proposed goals and short description of each). We may take note here of the three goals particularly pertinent to rural transformation – goals 6, 7 and 8.

Goal 6 asks for improving agriculture systems and raising rural prosperity. It mentions the improvement of farming practices, rural infrastructure, and access to resources for food

production to increase the productivity of agriculture, livestock, and fisheries, raise smallholder incomes, reduce environmental impacts, and ensure resilience to climate change.

Goal 7 is about cities. It calls for cities to be socially inclusive, economically productive, environmentally sustainable, secure and resilient to climate change and other risks. It urges development of participatory, accountable and effective city governance to support rapid and equitable *urban transformation*.

Goal 8 is specifically about climate change. It asks for curbing greenhouse gas emissions from energy, industry, agriculture, the built environment, and land-use change to ensure a peak of global CO<sub>2</sub> emissions by 2020 and to limit global average temperature increases to the levels agreed to under the UNFCCC (currently 2 degree centigrade). It requires action to promote sustainable energy for all.

We may also take note of goal 3, the broad education goal, which is of significance to ERT. Besides “complete affordable and high-quality early childhood development programs, and primary and secondary education” for all girls and boys, it requires access for all youth and adults to continuous lifelong learning to acquire functional literacy, numeracy, and skills to earn a living through decent employment or self-employment.

So far so good. The goals and the targets to achieve the goals are inclusive and to that extent they can be presumed to include rural people and rural concerns. The point again is – why is specific attention not being given to the rural people, the majority of the vulnerable, and those who have to be mobilized and enabled to take action for themselves and for others. Given historical experience and how the political economy of decision-making is aligned, how likely is it that the right priorities in action will be pursued, especially when these are not spelled out and strategies not elaborated specifically?

An SDSN report on “Global Profile of Extreme Poverty,” a background paper for the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda prepared in 2012 (Secretariat of SDSN, October 2012) pointed out that there are several basic causes of extreme poverty related to adverse geographical condition:

- Physical isolation of the region (landlocked, small island, mountainous) and sparseness of the population;
- Poor climate (hyper-arid, flood-prone);
- Poor agriculture (poor soils, land degradation, adverse climate) or poor fisheries;
- Lack of energy resources (not enough fossil fuels or hydro-power);
- Disease ecology (hyper-endemic vector-borne diseases such as malaria);
- Major vulnerability to hazards such as floods, droughts, typhoons, earthquakes and other hazards. (SDSN, 2012)

These are precisely the general characteristics of many rural areas and rural populations. By World Bank’s measure of extreme poverty, out of 1.2 billion in this category (in 2012), 26% lived in Sub-Saharan Africa, and 58% in Asia, mostly in South Asia. These regions also are the most rural among all regions (Ibid.)

The SDSN updated action agenda, neglecting to draw attention to an integrated urban rural transformation, went on to assert:

Urban sustainable development is a central challenge and a major opportunity for most countries. As urban and slum populations are rising rapidly, the urban share of the world's population is expected to rise from 52 percent in 2010 to around 67 percent in 2050, and the urban share of GDP and employment will rise commensurately. If managed well, urbanization can create employment and prosperity, and become a central driver for ending extreme poverty and for strengthening social inclusion. If managed poorly, cities will deepen social exclusion and fail to generate enough jobs. (SDSN, 2014, p.41)

The flip side of this position of course is that one third of the world's population in 2050 will be rural, the large majority will be poor, and they will be concentrated in certain regions, especially Sub-Saharan Africa and South Asia – with a deep adverse impact on development and overall well-being of people in the countries of these regions – unless specific measures are taken.

#### **4. The OWG Outcome – how has the discourse shifted?**

The Rio+20 outcome document of 2012, *The Future We Want*, inter alia, included a mandate to establish an Open Working Group to develop a set of sustainable development goals for consideration and appropriate action by the General Assembly at its 68th session, starting in September, 2014.

Through an intensive and wide-ranging and participatory consultation, the OWG in July 2014 adopted a set of 17 SDGs with sub-goals and suggestions for indicators. These goals and sub-goals echoed the 10 goals of SDSN, but went on to elaborate and specify some of the SDSN goals and to incorporate some SDSN sub-goals as separate goals. For example, separate goals were formulated by OWG on hunger, energy, water, sustainable production and consumption, infrastructure and industry, and global partnership (UN, 2014; also see Annex 2 for a list of goals with additional commentaries.)

Under the OWG goal 2 on hunger, food security and sustainable agriculture, sub-goals were identified which have specific implications for rural transformation.

- Sub-goal 2.3 - by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment.
- Sub-goal 2.4 - by 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality.

- Sub-goal 2.5 - by 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed.
- Sub-goal 2.a - increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and livestock gene banks to enhance agricultural productive capacity in developing countries, in particular in least developed countries.

Under Goal 5 on gender equality, sub-goal 5a calls for reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources in accordance with national laws.

Under Goal 10 on reducing inequality, sub-goal 10.7 requires facilitating orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies

Under Goal 11 on cities, sub-goal 11a urges positive economic, *social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.*

Education sub-goal 4.5 requires that by 2030, equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations be ensured.

These are positive statements and indicate an effort to respond to critiques on earlier formulations of goals and targets. These open the door to possibilities for adopting priorities and strategies focusing on the rural disadvantages and pursuing a holistic and integrated transformation of urban and rural situations. They still do not go far enough in highlighting specifically the rural concerns.

Beyond 2015, a global civil society campaign consisting of over 1000 CSOs in over 130 countries (<http://www.beyond2015.org/sites/default/files/FINAL>), has pointed out that the OWG outcome document is a good starting point for the intergovernmental negotiations on the Post- 2015 development agenda. The OWG's proposals, in its view, must represent the floor, not the ceiling for a truly transformative and people-centered framework.

Participation of those most affected by poverty and inequality in the design, implementation and monitoring of the post-2015 agenda could be prioritized further by addressing structural root causes of deprivation and vulnerability of people, including those in rural areas, argues Beyond 2015.

It urges that disaggregation of data and assessment should be further expanded according to national context, including using community-based approaches, in consultation with civil society and the most vulnerable groups. It points out that greater emphasis is required on equitable access and sharing as well as inclusive and participatory management of natural

resources and ecosystem services, especially for people living in poverty, indigenous peoples and vulnerable communities.

In moving forward, according to Beyond 2015, the proposed goals and targets often miss the inter-linkages between the three dimensions of sustainable development, undermining a coherent and holistic approach. Questions of indicators, universality and differentiation, and the responsibility for and governance of the new framework - all need to be resolved in the negotiations that will continue, it points out.

Where we come out in 2014, prior to further discussion and debate at the United Nations in the autumn, is that there is a greater recognition of the diversity of regional and within country contexts and situations. This recognition opens the possibility for considering and responding to the specific conditions of rural disadvantages adverse circumstances especially in countries and regions where there is a concentration of rural poverty in its many dimensions.

Responding to critiques that formulation of SDG priorities in the HPL recommendations and UN Secretary-General's report in 2013 may have neglected empowerment and agency of people, the OWG outcome document in July 2014 stated in its preamble:

People are at the centre of sustainable development and, in this regard, Rio+20 promised to strive for a world that is just, equitable and inclusive, and committed to work together to promote sustained and inclusive economic growth, social development and environmental protection and thereby to benefit all, in particular the children of the world, youth and future generations of the world without distinction of any kind such as age, sex, disability, culture, race, ethnicity, origin, migratory status, religion, economic or other status (UN, 2014)

The OWG also recognized that each country faces specific challenges to achieve sustainable development; that each country has primary responsibility for its own economic and social development and the role of national policies, domestic resources and development strategies cannot be overemphasized.

Both SDSN Action Agenda and the OWG outcome admitted in different words that there are different approaches, visions, models and tools available to each country, in accordance with its national circumstances and priorities, to achieve sustainable development in its various.

The negotiations and discourse need to continue to highlight the plight of the rural populations in regions, countries and communities, where they will continue to be the bulk of the poor. Ultimately, however, the critical factor will be, not as much as the formulation of the global goals and targets, but how these are translated into appropriate strategies and actions within countries to combat rural poverty and promote a holistic approach to transformation of rural and urban conditions.

## **5. A Green Future – the rural and poverty connections**

It follows from the argument above that, on an operational level, the concept and practice of sustainable development must be focused on the fight against poverty, especially rural poverty in developing countries, given its preponderance in these countries. The discourse on sustainable development and ways of enhancing skills and capacities of people points to at least three key concerns. These merit attention in shaping an integrated approach in education, training and relevant supportive strategies. These three concerns are: (i) social marginalisation and disparity and claiming a stake for all in economic and social development; (ii) coping with the feminisation of poverty; and (iii) promoting sustainable production and consumption for all, not just the poor, in the context of poverty reduction (Ahmed, 2010; UNESCO – INRULED, 2012).

The negative effects of climate change on rural people in developing countries are intensified by the inevitable high reliance on agricultural production for both food and income. The change in the patterns of the monsoon due to increases in global temperature is showing detrimental effects on agricultural production and people's livelihood. Countries such as Brazil and Egypt are being affected by decreasing precipitation, putting pressure on dwindling water resources, thus inhibiting agricultural production. Countries such as Bangladesh, Brazil and the Philippines suffer from droughts and floods simultaneously, in different parts of the country or at different times of the year. Competition between land use for food and biofuel production has consequences for food security and employment pattern and poses challenges for careful balancing (UNESCO-INRULED, 2012, ch. 4)

## **6. Sustainability issues in agriculture and rural economy**

Agriculture is the main user of land and water, a major source of greenhouse gas emissions (GHG), the main cause of human-induced conversion of natural ecosystems and the loss of biodiversity. Agriculture accounted for around 14 percent emissions globally, but combined with forestry (17 percent), they added up to almost one-third of total global emissions. By comparison, energy generation released over a quarter of total emissions (26 percent), followed by manufacturing at 19 percent. (International Energy Agency, 2008). In developing countries, agriculture is also the entry point for interventions in environmental protection. (Ibid.)

The large “environmental footprint” of agriculture means that there are many avenues for environmental action in this area. Long-term support and capacity- building to improve natural resource management and coping with increased climate risks have to be a priority. Strategies and actions have to give due importance to agriculture and forestry in adapting to climate change and mitigating their negative effects (World Bank, 2007, p.199).

As pointed out by World bank, developing countries are responsible for about 80 percent of global emissions of GHG from agriculture in contrast to emissions from fossil fuel use and industry, for which the richer countries bear the main burden of responsibility. Agriculture in developing countries is also a major contributor to reduction in natural carbon sequestration or storage (thus reducing emissions) in soil, pastures and forests (World Bank, 2007, “Focus F”).



Since the Rio Earth Summit in 1992, it has been recognized that the agriculture and environment agenda are inseparable. The web of interconnection between the degradation of natural resources, undermining of agricultural production, continuing unsustainable use of natural resources, and increased vulnerability to risk of people requires that an integrated view is taken of agricultural and rural development and responses to climate change. Even if emissions of GHG are stabilised at current levels or reduced somewhat, adaptation of agricultural practices is urgent because the developing countries are already subject to many adverse effects in varying degree (UNESCO-INRULED, 2012)

A major challenge, in fact, is to promote and support *a second generation of green revolution*. The original green (meaning agricultural) revolution begun in the 1960s has to be turned green in terms of environmental sustainability. In the 1960s, an acute crisis of global proportions was anticipated due to the mismatch between population growth and production of staple grains. Development and application of agricultural technology on a massive scale helped to avert that crisis. A crisis of larger proportions and far-reaching consequences looms large arising from global warming. Coping with this crisis calls for macro policies for greening agriculture and rural and national economies, research and knowledge dissemination, and skills and capacity building, directed to exploring the elements of a second generation "green" revolution and applying these in broad-ranging rural transformation in developing countries.

In short, transition to a greener economy focusing on agriculture and rural areas has to be part of broader long-term structural change in the economy. Socially responsible restructuring measures have to be adopted which do not punish further the poor and the disadvantaged in rural and urban areas. The costs of adjustments and how these are shared recognizing prevailing inequalities and disparities have to be examined and public understanding and consensus has to be developed about policies (Ibid.)

Many developing countries, in spite of having formulated policies, laws and regulations, falter in implementation and fall short in developing skills and capacities that are demanded by the green economy and green employment. Broadly speaking, the changing natural environment imposes greater demands on adaptation and the built environment creates a strong demand for mitigation measures. As the changing physical environment becomes a prominent feature in developing countries, especially in the rural areas, the relative importance of adaptation skills is correspondingly greater there than in the developed world (ILO: 2011, p.12).

## **7. Promoting skills and jobs for the green rural transformation**

What are "green skills and green jobs"? With sustainable development as the central agenda for post-2015 development goals, defining and determining green jobs and green skills have become particularly important.

"Green jobs" can be defined as jobs that reduce the negative environmental impact of enterprises and economic sectors, ultimately to levels that are sustainable. This definition includes work in agriculture, industry, services and administration that contributes to preserving or restoring the

quality of the environment while also meeting the criteria for decent work – adequate wages, safe conditions, workers’ rights, social dialogue and social protection. “Green skills” then can be defined as skills and competencies which are demanded in green jobs – facilitating the process and means of meeting the production standards and output criteria for green jobs (ILO and CEDEFOP, 2011)

ILO and Cedefop (the European Centre for the Development of Vocational Training based in Thessaloniki, Greece) undertook the study of the implications for skills and jobs of a green future in 21 countries which represented 60 per cent of the world population. It shows that the shift to a green economy is increasing the pace of change in labour markets and skill needs. It pointed out that economies moving towards greener production can seize the potential for job creation if they deal effectively with the coming structural change and transformation of existing jobs.

The report examines the experiences of developed and developing countries in adjusting their training provision to meet new demand of a greener economy. It indicates that many new occupations do not necessarily emerge in the transition to green jobs; rather, the nature of work in existing occupations change significantly. This change in work and required skills happen at all levels of qualifications and across sectors. These changes require action to modify the provision of education and training to make these responsive to the labour market.

The following is an indicative list of essential skills necessary for green jobs mentioned in the country cases in the skills for green jobs study of ILO (ILO and CEDEFOP, 2011; UNESCO-INRULED, 2012).

- Strategic and leadership skills to enable policymakers and business executives to set the right incentives and create conditions conducive to cleaner production, transportation, marketing, etc.;
  - Adaptability and transferability of skills to enable workers to learn and apply the new technologies and processes required to green their jobs;
  - Environmental awareness and willingness to learn about sustainable development;
  - Coordination, management and business skills to facilitate holistic and interdisciplinary approaches incorporating economic, social and ecological objectives;
  - Systems and risk analysis skills to assess, interpret and understand both the need for change and the measures required;
  - Entrepreneurial skills to seize the opportunities of low-carbon technologies;
  - Innovation skills to identify opportunities and create new strategies to respond to green challenges;
  - Communication and negotiation skills to discuss conflicting interests in complex contexts;
  - Marketing skills to promote greener products and services;
  - Consulting skills to advise consumers about green solutions and to spread the use of green technologies; and
  - Networking, IT and language skills to perform in global markets
- Core, generic and portable skills

In addition to essential skills mentioned above, certain core skills at a basic level are central in coping with changing economies. These include knowing how to learn, how to work in teams and how to communicate effectively, which need to be learned at a young age through participation in good quality basic general education. Language skills are critically important in accessing knowledge related to environmental change. These basic knowledge and skills can be considered as “portable skills” which are useful whatever occupation one enters or whatever further training or education one moves into (UNESCO-INRULED, 2012, Chapter 4).

### **Policy challenges in relating environment and skills issues**

Besides understanding and defining green skills and jobs, the challenges regarding the adoption and implementation of policies and actions related to promoting appropriate skills and jobs have to be addressed.

The coordination of skills policies and environmental policies is a critical issue in the transition to green economy and employment. Coherence of policies and the links between related policy arenas have many facets and are highly contextual. Responses from the developing countries on policy development in respect of the challenges of climate change, job creation, and link between the two, fall into three categories:

- Sound and comprehensive policies in countries where policies for the environment and/or skills are internally sound and comprehensive but not always well aligned. A number of countries have been relatively successful in developing sound environmental policies, but without fully coordinated skills policy measures to accompany them. Thus an overall coherent and holistic approach is lacking.
- Fragmented policies in countries where policies for both the environment and skills are weak and not well aligned. The countries that belong to this group have developed a number of environmental and skill policy initiatives, but in the absence of a general coordinating framework have not achieved policy coherence between the two; and
- Policies under development in countries that do not quite have either a well-developed environmental policy or skills development policy for a greener economy. The majority of developing countries fall into this group, as determined by country case information analysed in the ILO study (ILO and CEDEFOP, 2011).

### **Some specific measures in agriculture and the rural economy**

Restructuring in agriculture is happening in a great variety of ways. Most of the country case studies indicate that many farmers are repositioning themselves both within the sector and in other sectors, prompted by the inability to make enough profit to live on from agriculture, the development of machinery and technology, and climate change.

Farmers in many countries are already adapting and are ready to do so, when the support and incentives are available. A survey of practices in 11 African countries show that farmers are

planting different varieties of the same crop, changing the planting calendar, and modifying practices to adapt to a shorter growing season (World Bank 2007, p. 211; Maddison 2006).

*Enhancing effectiveness of skill training.* Most countries agree, according to country cases in the ILO study, that short, intensive vocational training courses, tailored to the specific needs of employers, are the most effective way of delivering retraining for specific new job opportunities. Such re-training has to occur locally, in rural areas, if this is where the jobs are. Ideally, it should not detach participants from existing work or from the job market (ILO and CEDEFOP, 2011).

*Anticipating and projecting green skills and green jobs.* A standard and agreed definition and statistically countable categories of green jobs and related skills do not exist. This creates difficulties in measuring green jobs and skills and placing these into occupational and industrial classification systems. Countries which have developed and established systems for the identification of skill needs and collect labour market information through labour market information systems (LMIS) enjoy a head-start (Ibid.).

*The informal economy issues.* The large size of the informal economy in developing countries indicates that measures to restructure the economy and skills training mainly in the organized sectors may leave large proportions of the people, especially in rural areas, without access to the skills development and new job opportunities. The organized sectors of the economy lend themselves to policy and regulatory interventions somewhat more easily than the dispersed informal economic activities. Quantitative estimates are hard to come by, but it can be reasonably assumed that there is large overlap between informal sector work and rural employment. (UNESCO-INRULED, 2012)

### **Some specialised green skills**

The International Standard Classification of Occupations (ISCO), last updated in 2008, classifies skill specialisation in terms of four conceptual areas: (i) the field of knowledge required; (ii) the tools and machinery used; (iii) the materials worked on or with; and (iv) the kind of goods and services produced (Greenwood: 2008).

Whether entirely new occupational categories need to emerge or some re-definition of the character or features of existing occupations will suffice depend on the degree of change in the skill composition of occupations when economies go through the green transition.

Recent research including the ILO study, particularly the country cases, suggests some new combination of specialised skills which need to be given attention in promoting the green transition especially in the context of rural transformation.

*Carbon financing specialists.* Flexible mechanisms introduced in the Kyoto Protocol included international carbon trading, which led to a number of new green occupations. This specialised skill is particularly important for the rural economy and the agricultural sector where major potentials exist for carbon sequestration in forests and land making new rural economic activities potentially viable.

*Researchers at university level.* Crop varieties have to be developed and introduced that can withstand the vagaries of climate change. Demand for soil scientists, plant and animal breeders, and pathologists will rise. Most researchers in agriculture have to be multidisciplinary. The scientists have to be supported by agricultural technicians for field level experimentation and trial of crop diversification and the application of improved machinery to reduce energy consumption and GHG emissions.

*Irrigation specialists.* They will be in demand to identify appropriate irrigation technologies that improve water conservation, conduct market studies to ensure the technologies are applied effectively, and impart skills in using and maintaining the technology to end users. This is particularly important as climate change and variability increase water scarcity.

*Agricultural meteorologists.* This is a new occupation created in response to increasing weather variability. These professionals apply meteorological information to enhance crop yields and reduce crop losses caused by adverse weather.

*Eco-adviser in agriculture* for sustainable development and eco-certification is another emerging occupation. These experts advise farms of all sizes from agribusinesses to smallholders in sustainable practices and existing certification mechanisms and standards.

*Renewable energy specialists.* This sector represents the most dynamic labour market segment for newly emerging green occupations, such as, renewable energy engineers, consultants, auditors, quality controllers, and installation and maintenance technicians.

*Education and training specialists.* The education and training sector is of particular importance and has a special role in the green transition. This role includes disseminating basic knowledge about environmental changes and influencing the behaviour of people in matters of environmental sustainability. Teaching and training personnel in all education systems and at all levels need to develop their command of the necessary skills and methods to impart environmental knowledge. They have the job of creating awareness at different levels. The education and training plans and programmes have to anticipate and react flexibly to ever-changing labour market needs. Most developing countries have insufficient numbers of well-trained teachers and trainers to satisfy the need to update the skills of large and growing workforces, including a need to incorporate environmental course content and update curricula in primary, secondary, tertiary and adult education training (UNESCO-INRULED 2012)

## **8. ESD and Rural Transformation**

The United Nations General Assembly had proclaimed the UN Decade of Education for Sustainable Development (DESD) in 2002, 'emphasizing that education is an indispensable element for achieving sustainable development'. The vision of Education for Sustainable Development (ESD) is to create the opportunity for every human being to acquire the knowledge, skills, attitudes and values required for a sustainable future. It encourages all to learn for change and learn to change.

In practical terms, ESD means incorporating key sustainable development issues into teaching and learning. These include contents on climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It also requires participatory teaching and learning methods that motivate and empower learners to change their behaviour and take action for sustainable development. Education for Sustainable Development is designed to emphasize the promotion of competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way (UNESCO, 2005a)

An analysis of ESD practices in the Asia Pacific Region attempted to examine to what extent countries in the region integrated ESD policies, programmes and practices into both formal and non-formal educational settings at the grassroots, sub-national and national levels, as well as strengthen regional partnerships and networks on ESD.

This analysis indicates that the dominant trend in the countries is to conceptualize ESD narrowly as introduction of “environmental education” (EE) content in the curriculum and many countries made some progress in this respect. (EE). The holistic and crosscutting nature of ESD in terms of change in thinking, values and behavior have not permeated various spheres of people’s life. Moving from EE to ESD has been the main challenge in the Decade of Education for Sustainable Development for all stakeholders - rural and indigenous communities, civil society, youth, media, the private sector as well as the public sector and government agencies. (UNESCO 2005b) This line of argument for a holistic approach has led to an advocacy for linking of ESD and inclusive education in the discussion on post-2015 education agenda, though the operational implications of this linking need spelling out (UNESCO 2012).

A culminating event of the UN designated Decade is the World Conference on Education for Sustainable Development is to be held in Nagoya, Aichi, Japan, on 10-12 November 2014. Its outcomes are seen as important input for the future education agenda and for intergovernmental negotiations about the global development and education agenda for 2030. In the same vein, the Asia Pacific Regional Education Forum, in the course of reviewing EFA 2015 progress, asserted that goals and targets of the global post-2015 development agenda to be adopted by the UN Summit in September 2015 should be aligned with the education agenda that will be adopted at the Aichi-Nagoya conclave this year and the World Education Forum in Incheon, Korea on 19-22 May 2015. The regional forum participants pledged to participate actively in future consultations and to facilitate the debates in respective countries (UNESCO, 2014).

## **9. Conclusion**

I will underscore what I said earlier. The debate on the global development agenda will continue until the fall of 2015 when the global agenda for 2030 will be adopted at the United Nations. The new phase of EFA up to 2030 will be spelled out at the World Education Forum in Korea in the spring of 2015. A skewed perspective on the urban-rural issue and a weak formulation of an integrated view of education and development remain serious concerns. This is liable to distort the new development direction and thus undermine progress towards combating poverty and building the green future.

A two-track approach is needed now.

i) The stakeholders' voices must be raised to give prominence to the rural transformation issues in the continuing negotiations until the final articulation and adoption of the global agenda for 2030. This effort can emphasize a holistic and integrated regional and ecological approach rather than a compartmentalization of urban and rural problems and solutions.

ii) Work has to continue systematically on adapting and adjusting the global agenda and targets for each country in ways that respond to the specific contexts and circumstances of each. This process can direct necessary attention and priority to rural populations and areas within an integrated and holistic framework of guaranteeing a stake for the disadvantaged and protecting and promoting the rights and human dignity for all.

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## ANNEX 1

**Sustainable Development Solutions Network Goals presented in *An Action Agenda for Sustainable Development: Report for the UN Secretary-General*. 5 May 2014**

### **GOAL 1: END EXTREME POVERTY INCLUDING HUNGER**

End extreme poverty in all its forms, including hunger, child stunting, malnutrition, and food insecurity. Support highly vulnerable countries.

### **GOAL 2: PROMOTE ECONOMIC GROWTH AND DECENT JOBS WITHIN PLANETARY BOUNDARIES**

All countries have a right to development that respects planetary boundaries, ensures sustainable production and consumption patterns, and helps to stabilize the global population by mid-century.

### **GOAL 3: ENSURE EFFECTIVE LEARNING FOR ALL CHILDREN AND YOUTH FOR LIFE AND LIVELIHOOD**

All girls and boys complete affordable and high-quality early childhood development programs, and primary and secondary education to prepare them for the challenges of modern life and decent livelihoods. All youth and adults have access to continuous lifelong learning to acquire functional literacy, numeracy, and skills to earn a living through decent employment or self-employment.

### **GOAL 4: ACHIEVE GENDER EQUALITY, SOCIAL INCLUSION, AND HUMAN RIGHTS FOR**



**ALL**

Ensure gender equality, human rights, the rule of law, and universal access to public services. Reduce relative poverty and other inequalities that cause social exclusion. Prevent and eliminate violence and exploitation, especially for women and children.

**GOAL 5: ACHIEVE HEALTH AND WELLBEING AT ALL AGES**

All countries achieve universal health coverage at every stage of life, with particular emphasis on Primary health services, including mental and reproductive health, to ensure that all people receive quality health services without suffering financial hardship. Countries implement policies to create enabling social conditions that promote the health of populations and help individuals make healthy and sustainable decisions related to their daily living.

**GOAL 6: IMPROVE AGRICULTURE SYSTEMS AND RAISE RURAL PROSPERITY**

Improve farming practices, rural infrastructure, and access to resources for food production to increase the productivity of agriculture, livestock, and fisheries, raise smallholder incomes, reduce environmental impacts, promote rural prosperity, and ensure resilience to climate change.

**GOAL 7: EMPOWER INCLUSIVE, PRODUCTIVE, AND RESILIENT CITIES**

Make all cities socially inclusive, economically productive, environmentally sustainable, secure and resilient to climate change and other risks. Develop participatory, accountable and effective city governance to support rapid and equitable urban transformation.

**GOAL 8: CURB HUMAN-INDUCED CLIMATE CHANGE AND ENSURE SUSTAINABLE ENERGY**

Curb greenhouse gas emissions from energy, industry, agriculture, the built environment, and land-use change to ensure a peak of global CO<sub>2</sub> emissions by 2020 and to limit global average temperature increases to the levels agreed to under the UNFCCC (currently 2 degree centigrade). Promote sustainable energy for all.

**GOAL 9: SECURE BIODIVERSITY AND ENSURE GOOD MANAGEMENT OF OCEANS, FORESTS, WATER AND NATURAL RESOURCES.**

Biodiversity, marine and terrestrial ecosystems of local, regional, and global significance are inventoried, managed, and monitored to ensure the continuation of resilient and adaptive life support systems and to support sustainable development. Water, oceans, forests, and other natural resources are managed sustainably and transparently to support inclusive economic and human development.

**GOAL 10: TRANSFORM GOVERNANCE AND TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT**

The public sector, business, and other stakeholders commit to good governance, including transparency, accountability, access to information, participation, an end to tax and secrecy havens, and efforts to stamp out corruption. The international rules governing international finance, trade, corporate reporting, technology, and intellectual property are made consistent with achieving the SDGs. The financing of poverty reduction and global public goods including efforts to head off climate change are strengthened and based on a graduated set of global rights

and responsibilities.

Source: Sustainable Development Solutions Network. *An Action Agenda for Sustainable Development: Report for the UN Secretary-General*. Annex 1. 5<sup>th</sup> May 2014.

## ANNEX 2

### **OWG Sustainable Development Goals adopted in July 2014**

The United Nations General Assembly's Open Working Group on Sustainable Development Goals completed its mandate at the end of its 13<sup>th</sup> and final session at the United Nations Headquarters in New York on Saturday, 19 July 2014. The OWG adopted its outcome, the *"Proposal of the Open Working Group for Sustainable Development Goals"* by acclamation, and the proposal will be submitted to the United Nations General Assembly for consideration and appropriate action at its 68<sup>th</sup> session, in September, 2014..

At the United Nations Conference on Sustainable Development (Rio+20) held in Rio de Janeiro, Brazil, in June 2012, governments agreed to launch a process to develop a set of Sustainable Development Goals (SDGs). They requested the establishment of an Open Working Group (OWG) of 30 elected UN Member States to elaborate a proposal for SDGs through an inclusive and transparent intergovernmental process open to all stakeholders, and to submit it to the 68<sup>th</sup> session of the General Assembly (GA) for consideration and appropriate action. The Member States decided to use an innovative, constituency-based system of representation that was new to bodies with limited membership. This means that most of the seats in the OWG were shared by several countries.

The Group's work was organized into two main phases. During its first eight meetings, from March 2013 to February 2014, the work concentrated on information gathering and stock-taking as well as collecting views on the main themes identified in the Rio+20 outcome document. In the second phase, from March to September 2014 (sessions 9-13), the Group negotiated the SDGs and the contents of the report to the 68<sup>th</sup> session of the GA. At its 13<sup>th</sup> and final session, the OWG performed three readings of the drafts during three days of "informal-informal" consultations, followed by five days of informal meetings of the 13<sup>th</sup> session.

On 19 July the OWG completed its mandate at the final formal session by adopting (by acclamation) the "Proposal of the Open Working Group for Sustainable Development Goals" and the session ended with a standing ovation for the Co-Chairs, Macharia Kamau, Permanent Representative of Kenya, and Csaba Körösi, Permanent Representative of Hungary.

The final report of the OWG containing the chapeau and the proposed 17 goals and 169 targets (including 62 targets on means of implementation) will be submitted to the GA for consideration in September 2014, where the next steps will be determined. The proposed SDGs are only a part of the broader post-2015 development agenda that is to be adopted in late 2015. There is likely another year's worth of deliberations before the SDGs are formally adopted by the GA along with other components of the post-2015 development agenda that will succeed the MDGs.

The 17 proposed goals in the OWG's outcome document are as follows:

**Goal 1. End poverty in all its forms everywhere**

**Goal 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture**

**Goal 3. Ensure healthy lives and promote well-being for all at all ages**

**Goal 4. Ensure inclusive and equitable quality education and promote life-long learning opportunities for all**

**Goal 5. Achieve gender equality and empower all women and girls**

**Goal 6. Ensure availability and sustainable management of water and sanitation for all**

**Goal 7. Ensure access to affordable, reliable, sustainable, and modern energy for all**

**Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**

**Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

**Goal 10. Reduce inequality within and among countries**

**Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable**

**Goal 12. Ensure sustainable consumption and production patterns**

**Goal 13. Take urgent action to combat climate change and its impacts\***

\*Acknowledging that the UNFCCC is the primary international, intergovernmental forum for negotiating the global response to climate change.

**Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development**

**Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**

**Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**

**Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development**

#### **Selected sub-goals under the above goals – especially relevant for ERT**

1.4 by 2030 ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership, and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services including microfinance

2.3 by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment

2.4 by 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality

2.5 by 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed

2.a increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and

livestock gene banks to enhance agricultural productive capacity in developing countries, in particular in least developed countries

4.5 by 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples, and children in vulnerable situations

5.4 recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies, and the promotion of shared responsibility within the household and the family as nationally appropriate

5.a undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources in accordance with national laws

8.2 achieve higher levels of productivity of economies through diversification, technological upgrading and innovation, including through a focus on high value added and labour-intensive sectors

8.3 promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage formalization and growth of micro-, small- and medium-sized enterprises including through access to financial services

10.7 facilitate orderly, safe, regular and responsible migration and mobility of people, including through implementation of planned and well-managed migration policies

11.a support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

13.a implement the commitment undertaken by developed country Parties to the UNFCCC to a goal of mobilizing jointly USD100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

15.1 by 2020 ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

15.2 by 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and increase afforestation and reforestation by x% globally

15.c enhance global support to efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities

17.1 strengthen domestic resource mobilization, including through international support to developing countries to improve domestic capacity for tax and other revenue collection

17.7 promote development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

17.9 enhance international support for implementing effective and targeted capacity building in developing countries to support national plans to implement all sustainable development goals, including through North-South, South-South, and triangular cooperation

17.18 by 2020, enhance capacity building support to developing countries, including for LDCs and SIDS, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

Source: United Nations, Final Proposal of Open Working Group, 19 July, 2014.  
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