

MANIFESTO FOR A GLOBAL
CITIZENSHIP EDUCATION



TEN BILLION
HUMAN BEINGS:
TO LIVE TOGETHER,
LET'S CHANGE
EDUCATION!



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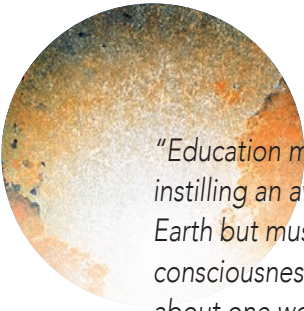
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*"Education must succeed, not only in instilling an awareness of our Mother Earth but must also translate this consciousness into a desire to bring about one world-wide citizenship."
Edgar Morin⁽¹⁾*

The Paris-education 2015 Collective has brought together educationalists, organizational leaders and politicians working for the integration of education into the Paris Climate Conference 2015 (COP21)

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European Conference
Let us take care of the planet
May 2015, Brussels

By way of introduction...

Their names are Pedro, Chan, Alexey, Faizah, Naoline, Landon, Asma, Florent... and their homes cover the world's five continents. In 2050, these girls and boys will be between 35 and 40 years old... The prime of life! How will they relate to each other? Will they know each other? Will some of them have been forced to migrate to survive through lack of resources or because of climatic changes? Will they have resorted to war to fight for access to water or food, or will they stand together in a more peaceful world committed to greater justice?

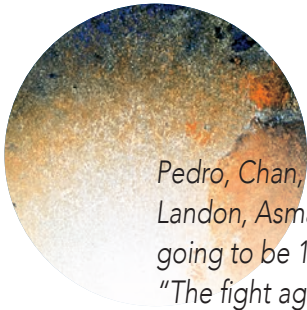
2050 is tomorrow! Our children and grandchildren will doubtless be part of a population of 10 billion living on planet Earth. In these few intervening years, whatever decisions are taken by governments or whatever commitments are made by millions of the world's citizens, the temperature of the globe will have increased, as will the level of the oceans. Depending on the extent to which our generation will have resolved to reduce our CO₂ emissions, the increase by the year 2100 will be between 2° or 4° C, or even more. Clearly, whatever the figure is, we are going to have to live differently.

Faced with the diversity and complexity of the gigantic problems thrown up by the development models of our contemporary societies, we are therefore forced, as a question of the utmost urgency, to address the questions of education and training of the future generations who are going to confront bio-physical, economic and political realities on a scale which has previously been undreamt of and which we ourselves are barely able to grasp today. When the very future of mankind on the planet is at stake, our primary concern here is to address the human factor: what are the human qualities required to tackle the unprecedented problems of tomorrow, if humanity is not going to plunge into total violence and rip apart the basic fabric of human civilisation? What sort of Planet do we wish our children to bequeath to future generations?

This emergency calls for a change of scale, requiring a veritable transformation of what we call 'education', both in what is taught and the way it is taught. Notwithstanding the goodwill and competence of many educationalists, we have yet to come to grips with the many consequences of climatic change and, in a wider sense, the major societal changes that we are facing. Some farsighted individuals are showing the way, but now is the time to move into top gear.

Pedro, Chan, Alexey, Faizah, Naoline, Landon, Asma, Florent and all the others, it is you we are thinking about in drawing up this manifesto. The global scale and impact of the climatic challenges we are facing in this twenty-first century require us to adopt a much more intensive, cooperative and politically forceful stance if we are going to leave you with a viable future. The necessary ecological transition towards a sustainable world society calls for major changes at all levels. It is not simply a matter of 'greening up'

our present model of society. The first priority is to mobilize today's and tomorrow's citizens themselves, and to draw up a new contract between humanity and the planet. And this is where education, whose prime responsibility is forging tomorrow's world, becomes the principal agent of change. For it is the education and training that we offer you that will make you into emancipated adults, because there will be 10 billion of you who will have to live together by respecting your unique home, the planet Earth: a world-wide education for global citizenship which will not only widen your angle of vision but also broaden your understanding of the world beyond your immediate environment!



Pedro, Chan, Alexey, Faizah, Naoline, Landon, Asma, Florent ... there are going to be 10 billion of you by 2050. "The fight against climate change requires not only a reorientation of our societies towards a more sustainable model for the environment, but it also show us the way to a radical social transformation which could lead us to a better, more just and equitable, world" for you to live in, as Naomi Klein asserts⁽²⁾.



University in the
Mekong delta, Vietnam.

A state of emergency... we no longer have any choice

We are at a point in history at which climate changes and the human tragedies which stem from them (refugees, droughts, floods, increased vulnerability of food production...) are intersected by a succession of other crises: a crisis of an economic model that eats up resources with international finance making some scandalously rich and confining many others to extreme poverty; more and more acute crises and conflicts between population groups, between

cultures and identities, between native peoples, immigrants and refugees; a crisis of international institutions charged with producing and promoting the common good; a crisis of democratic model and of social progress for all and, finally an ethical crisis with its vision of a common future in which all shall be respected for their differences as well as being conscious of the profound similarities which bind us together.

Both individually and collectively, we have to undertake a profound shift in outlook which allows us to fuse together social, economic, ecological and cultural factors. Education is one of the most powerful levers available for accomplishing such a shift, thereby opening up a new sustainable, peaceful and democratic way of living: a shift that incorporates changes in our scientific knowledge, our values, our skills and our behaviour patterns. In 2015, the symbolic day when, theoretically, we reached and passed in consumption the renewable resources of the planet which are available for this particular year – overshoot day – took place on 14th of August! Beyond this date, humanity is eating into the Earth's natural resources which are non-renewable. We are therefore drawing on the capital, or basic resources, available to our children and grand-children.

Towards an ecological, cultural and societal transition

Will the Paris 2015 Climate Conference turn to such new perspectives? It is an unescapable truth that, since the Rio Earth Summit in 1992, the consumption of fossil energy, just as all our other resources, has continued to go up. Clearly, it is no longer credible to found a development model on resources which are running out and which provoke an untenable global warming. We have therefore to find the most positive, plausible and convincing way to accompany the ecological transition to a 100% renewable energy and its attendant circular economy.

As early as 1992, Article 6 of the United Nations Framework Convention on Climate Change called strenuously for the implementation of strategies through educational systems and general public awareness campaigns. Among other measures, the article called for the drawing up and dissemination of resource material for public awareness and for educational and training

programmes, including the reinforcement of national efforts in this direction and the training of scientific and technical personnel for reorientation training programs, particularly for developing countries.

Nonetheless: "Since this first World Summit at Rio de Janeiro which first envisaged the reduction of greenhouse gas emissions, and then particularly after the Kyoto protocol, we have passed from six or seven billion tons of carbon to a good ten billion today, whereas we should have dropped to three or four" commented the climatologist Hervé le Treut on the occasion of the UN summit in New York in September 2014.

Rather than making war against life on our planet, our societies, especially in the northern hemisphere (remember that there some 20% of humans take 80% of the earth's resources) but also in the south, need to recall that non-renewable resources are fundamentally a universal birthright. And that as such we should emphasize, through education and training, that each individual should cherish its preservation. In her book *This Changes Everything*, the Canadian journalist Naomi Klein emphasizes that "climate change offers us a unique opportunity to change the system" ⁽³⁾. For this to happen, we need not only a reorientation of our societies towards a viable model for the environment, but this should also open the way to a radical social transformation, leading to "a better world, one which is more just and equitable."

Undertaking this ecological transition towards sustainable development means that we should therefore be able to envisage and to construct an economic and social model which is founded and built on a collective basis, one which renews our ways of consuming, of producing, of working, of living together, leading inexorably to a redistribution of income both on the national and the world level. Such a change must assure that everybody has access to the common good and produces goods and services which are also accessible to all.

This of course poses the question of how one moves from one type of society to another. And this reveals clearly the difficulty that we have in building an economy based on the common good. For everybody thinks that what is good for the one is good, within obvious limits, for others as well as for the planet. And no-one wishes

to give up their own advantages – piously thinking, at best, that others have the right to ‘advance’ in the same way. But what then is an economy of the ‘common good’? In our eyes, it means entering into a dynamic where emphasis is on producing more ‘links’ than ‘goods’, with such a transfer coming about in an egalitarian mode. We think that such renunciation of personal acquisition will be largely compensated by the immense satisfaction that we can all share, in adopting a more tranquil collective life, without permanent conflict. And such a transition will lead to greater well-being for each person, as for all. Human societies no longer strive towards ‘economic prosperity’ at any price as UN once so much liked to put it, but towards ‘human contentment’. This is an altogether different project for mankind, one in which the pleasure of exchange, the sharing of culture, the access of everyone to collective decision-making will be a source of pleasure and constitute a veritable progress for humanity. As the philosopher Michel Puech puts it: “The fundamental figure of this type of economy will be the ‘cycle’ which will replace the ‘growth curve’⁽⁴⁾ The objective is to produce goods and services whilst limiting consumption and the waste of natural resources, of water, of sources of energy, no longer resorting to a linear economy of ‘always more’ with ‘accumulation’ as the ‘end product’, but instead to adopt a circular economic model based on the principle of observing the life cycle, thereby making human activities part of nature’s own cycle. Such an economy will be ecological in essence: it aims to create a balanced eco-system between man and the external world. In this way, the equilibrium established between our very being and our needs, in the way we relate to the atmosphere, to water, to the soil, to living species, to the oceans and landscapes – all this will become more important than ‘financial flows’ and ‘productivity gains’, achieved at any price. We are therefore talking about a total inversion of the currently accepted value system.

10 billion human beings in 2050

If this transition is necessary because of climatic change, it is also vital for demographic reasons. Our present system is perverted by the current agro-industrial model to the extent that, for the first time in the history of humanity, there is a greater chance of dying

from obesity than from under-nourishment! And yet today, two billion human beings suffer from malnutrition. Hunger still kills. And the world's population is still increasing, to reach about 10 billion towards 2050. Food production and available natural resources are sufficient to support this demographic growth in a sustainable way only in so far as we adopt another model of production and of sharing, founded on respect for eco-systems.

At the present time, there are many agricultural practices which threaten long-term viability, impoverishing the soil, destroying biodiversity, placing too great a strain on water supplies and leading to loss of natural habitat. The growth of the agro-industrial model is eating into our capital of natural resources. Everywhere on the planet, these questions have become major political issues. Famine and malnutrition are the causes – or the results – of conflicts, civil wars, and disastrous social and economic situations. The multinational food giants control world markets to the detriment of a food-producing culture providing nourishment for local needs. As for massive food aid, required in certain emergencies, so important when short-term survival of peoples is actually threatened, this itself can sometimes lead to a dependence of the beneficiaries on the donors and hence further destabilize local agriculture in a brutal fashion.

The question of access to water is linked to this question of food supply. With global warming, climatic irregularities are increasing. In some well inhabited places, rainfall is increasing rapidly leading to catastrophic flooding, whilst in other areas exceptional drought conditions prevail. Many countries are already constrained to fight for or against water, so that it is no longer just an internal question but one with international implications. And this question is not a new one. Already in 1977, the first United Nation's conference on the subject affirmed the right for people "to have access to drinking water in quantity and quality sufficient for their essential needs". The situation is far from having improved in developing countries. The quantity – as also the quality – of available water per person has actually gone down. Worse still, this precious basic fluid is now considered by some as a marketable commodity. So there is now a crying need for new urgent measures of cooperation to be adopted.

If this is the case for food production and hydration, it is also the case for health provision. Of the eight “Millenium Development Goals”, three concern questions of health: reducing infantile mortality, improving maternity care, combatting disease. There is a clear relationship between poverty and poor health. In developing countries, life expectancy is around 50 years whereas it is 77 in rich countries. Malaria and epidemics such as cholera and typhoid are closely linked to water pollution. More than three million persons die each year of air pollution, two thirds of these being poor. Pesticides poison millions of people every year. AIDS/HIV continue to wreak havoc on familes, communités and countries. If we want to turn this situation around, it is indispensable to preserve bio-diversity thereby reducing sickness and providing better natural medicines. Once again, it is the poor who suffer the most from ill health associated with upset ecosystems.

Moreover, wherever we look, we can see increasing tensions, conflicts and anxieties. Never have so many people quit their homes and taken to the road, some fleeing climate change, others food riots, many flocking to the overstretched cities, and everywhere there is a growth in extremism and conflicts of identity. Barriers are going up, of barbed wire and concrete; law and order is tightened precisely because it is collapsing. The desperation of the refugees is both feared and exploited. Drownings in the Mediterranean, off the coast of Australia and in many other regions of the world, are the ultimate expression of the global human drama unfolding, all as a consequence of the systemic crisis of mankind’s relationship to the planet and hence human relationships to each other.

Education: the forgotten priority in the climate negotiations

At a time when many politicians, scientists and indeed citizens in general are becoming more and more aware of the urgency of moving to sustainable development in ecological, cultural and societal terms, it is, to say the least, shocking to find that questions of education and training are far from being high on the agenda of the important climate conferences urgently being convoked.

This regrettable oversight is not however because of a lack of meetings, discussions and conferences bringing together experts and Heads of State from the four quarters of the Planet. Since the

first planet conference in Berlin in 1995 (COP 1) which was regarded as the important practical follow-up to the U.N. Rio Conference on environment and development, twenty years have gone by. Twenty years of attempting to seek agreement on trying to reverse the exponential growth of greenhouse gas emissions and also facing up and learning to combat the devastating consequences caused by this growth. Twenty years of marking time, at a virtual standstill in terms of finding solutions that will in any case take several decades to have any real effect. Twenty years of discussion between negotiators grappling with technical, economic, financial, diplomatic and legal 'solutions'... Come to think about it, twenty years is already considerably more than most countries consider the norm for years of compulsory education!

And yet, right from the very start at Rio, 'the' road for tackling climate change and assuring humanity of a sustainable future was clearly advocated. Thus, the U.N. declaration's tenth principle states that "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level", and principle 21 clearly states that "the creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership In order to achieve sustainable development and ensure a better future for all". As for the agenda 21 following immediately after the Rio dynamic, the quasi-totality of its chapters speak of the importance of access to information, of the need for awareness-raising programs and the need for education of the world's populations to enable them to participate actively in the indispensable changes necessary to achieve human solidarity.

Indeed, how can the oft-stated objectives referred to above be conceivably achieved WITHOUT education and training? Nevertheless, for the last twenty years, those running climate change conferences have considered education as 'off subject'. And at the most they have paid lip service to what can be the only fundamental lever of change: a wholly integrated and sustainable education which, instead of perpetuating the traditional pattern of thought condemning us to a clearly unsustainable future, would produce – at school as much as through life-long learning – women and men who are emancipated, innovative, conscious of their own responsibilities and their own choices, standing in solidarity

with each other and above all respecting their common place of residence, the Earth.

Why this oversight? Is it such a far-fetched notion to involve the people themselves in forging the changes which all the conferences are demonstrating are necessary in all domains of life? Or is it simply that those who flock to the conferences and have the most 'clout' (politicians, technical professionals and lobbyists) just assume that all that school should set its sights on should be educating and training children and adults to be good consumers and hence quiet agents of a society of infinite growth on a planet of finite resources? And yet it is true that at Unesco's Conference in Aichi-Nagoya in November 2014 to reflect on the closing of the UN decade (2005-2014) on Education for Sustainable Development (ESD) the gauntlet has already been thrown down, since the delegates stressed the urgency of the need for a new global education, inviting governments to redouble their efforts to question their educational systems' underlying values and to integrate ESD into their educational and training policies, working in partnership with other agencies operating in the same domain. And they also stressed the fact that such a reorientation necessitated major adjustments to national teacher-training programs as well as in-service training.

On their side, the United Nations agreed to define the Sustainable Development Goals (SDG) which should achieve the task undertaken in the Millennium Development Goals. Their contents were adopted by its Member States at the Sustainable Development Summit in September 2015 (see below, Annex 1). Among the 17 objectives given priority "to set the world on the right track of an inclusive, sustainable and resilient development" (Helen Clark, Administrator of U.N. Development Program), the educational transition received heavy emphasis. The adherence and engagement of the populations, in particular of the richest countries, is a condition sine qua non of the success of the objectives. And this success is also largely dependent on the educational models developed to promote the new values.

So there should be no more prevaricating. The cool-headed yet energetic fight which we all agree is absolutely essential and urgent to combat climate change can only lead to a "happy"

outcome if we are capable of offering – instead of the frenetic consumerism pursued by the privileged, and to which the underprivileged aspire – new forms of satisfaction: a deeper sharing of human knowledge and experience, of cultural creation and of democratic debate. This can only come about by making education the absolute priority. Here, 'education' is used in its widest most inclusive sense – including school, social and family life, initial training and life-long training, culture and popular education. This 'absolute priority' must apply not only to words but also to deeds. And this 'education' for sustainable development and world citizenship must move to central stage at all Conferences of the United Nations, whatever the theme, including of course, climate change. And let the Paris 2015 Conference on Climate (COP 21) be the place to start!

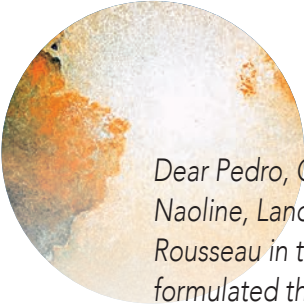
Getting started

It is in this spirit that was created, in July 2014, the "Paris-Education 2015 Collective". In explaining how this Collective came into existence, it may well seem surprising that – alongside the patient work already undertaken by UNESCO throughout the decade of Education for Sustainable Development initiated at Johannesburg in 2002 – what might well at first appear as a most unlikely source of reflection on the necessary transformation of education came in 2011 from an American military naval college. For the first time in the international debate on the new challenges facing the planet, an alarm signal was sounded not only by researchers and grass-root activists, but also by a high military source which concluded that our educational systems needed a profound transformation in order to cease reproducing unsustainable patterns of life. Because for them this was also a question of planetary security.

The school of the twenty-first century must therefore re-engage with the whole community in formulating a project for humanity. The challenges we are faced with are on such a scale that they perforce dictate the direction we should take and that is particularly the case in societies which for some time have been struggling to find a direction and have to be content with purely 'technical' reforms. We should not desperately seek for ultimate aims for our schools. They are there, under our very eyes. Our school must

become a school for the construction of a planet-wide identity, with values of universal solidarity and equity. It must become a school which strives to understand what is at stake worldwide, socially, economically and environmentally, and this does not conflict with a local engagement and participation with the necessary renaissance of authentic democracy. A school for the transformation of social relationships, of intercultural dialogue and respect for differences. A school which also embodies the transition towards Sustainable Development, more than simply mouthing the words.

Since July 2014, the Paris-Education 2015 Collective has therefore been multiplying appeals and encounters in order that the great rendez-vous fixed by the international community for Paris at the end of 2015 should indeed be a summit which rises to the challenges posed by climate change but also stressing that these challenges directly and inextricably concern educational transformation in the 21st century. The Collective calls for an unprecedented effort of solidarity by translating into practical action on a massive scale the generalization throughout the world of such a new education.



Dear Pedro, Chan, Alexey, Faizah, Naoline, Landon, Asma, Florent... Rousseau in the first book of Emile, formulated these several lines which are still appropriate to cite to you: "In the natural order of things, since all men are equal, their common vocation is to be a man... How to live that life is what I want to teach him; he will be first and foremost a human being: What every one has to be, he will be and, if need be, as well as anybody else; and no matter what situation fortune lands him in, he will always be himself". How to live. "How to live in the world" is the lifeskill which we would like to teach you. That at any rate is the fundamental objective of what is normally meant by Education for the Environment and Sustainable Development.



A school in Uraba, Columbia.

What sort of heritage are we leaving for our children?

After this short presentation of the state of emergency that we find ourselves facing in the coming decades, let us examine how increased awareness and knowledge, education and training, can work as sufficiently powerful levers to bring about the ecological transition to achieve Sustainable Development. What sort of a society do we want for tomorrow's world? What sort of citizens do we want to be? What type of social organization? What type of relationship between peoples, nations

and cultures? These are the questions that education must address. Education must constantly be adapting to societal changes without neglecting existing achievements and the fruits of human experience, but always keeping in mind the long-term future. But in any the case, we do not need people to be competitors, but rather free, emancipated, creative, autonomous individuals, capable of constructing life strategies founded on solidarity and cooperation with a clear understanding of the environmental, social, cultural, political, scientific, technical and ethical issues at stake. All these factors are intimately linked to the cause of the development of the individual and of society. Today, and even more so tomorrow, the adult will have to expect and to cope with uncertainty in daily life. That will be the case for the individual citizen as also for the collective social and economic spheres. An education which fosters the development of an informed and committed citizenship will alone be capable of producing a viable model of society. And what is true for each State applies just as much to the whole world.

Educating: a long path to follow

Educating means making it possible to have emerge in each individual the intelligence, the expression of values and general behaviour which can contribute to the well-being of all. It is also creating a climate which allows us all to live and act together, whilst at the same time each individual remains free, with responsibility for his or her own well-being. It is precisely this combination of the individual and collective aspects that constitutes the new vision of education, with commitment to social justice, a culture of tolerance and of peace and cooperation.

But that still leaves much to be said about the ultimate functions and purposes of education. "What do we mean by education?" asks Michel Puech: "First we need to get rid of one ambiguity: education is not a means of constraining people". There are of course necessarily some constraints in the educational process, but, unlike constraints imposed to achieve normalization, the constraints must be liberalizing ones encouraging all individuals not only to "live" together but also to "act" together. The author warns about the dangers of aiming for quick results; the path is a slow one and the humanist way forward is based on a cognitive revolution: "Our world is an Earth. Our species is only one of life's species. We have become capable of deciding ourselves the destiny of our own species". But it is not enough to be convincing

for action to follow. Education is a call for action, not only instilling motivation but also commitment. Aiming at the total development of the individual, this equips the individual for autonomous and critical thought as well as the instinct to work with others.

It is this sort of education which aims at self-understanding as well as understanding others and also comprehending the links which unite us to the much bigger natural and social environment. This constitutes the very foundation of self respect, as well as respect for the world and those who inhabit it.

From piecemeal educational projects to a comprehensive global approach

The problems engendered by the development model of our contemporary societies, in particular concerning climate change, have become increasingly diversified and complex in recent decades. The explosion of the ecological footprint, the globalization of exchanges and of the economy, the diversification and the growing disparities of lifestyles, of access to resources, consumer goods and sources of knowledge and culture, all these have generated a torrent of subjects, themes, questions, debates and controversies which threaten to drown us. "How do we cope with open access to all this information and know how to link the bits together and organize them? How do we perceive the particular context, or the whole (in relation to its parts), the Multidimensional and the Complex?", asks the sociologist Edgar Morin.⁽⁶⁾ In order to piece together knowledge in a coherent way, we must call into question our modes of thinking.... "The crucial problem of our time is to match our way of thinking to the new challenges concerning the complexity of the real, and that means making new linkages, mutual interactions and deductions." That means adopting a new systemic approach, a veritable revolution in the way we think the world and our thoughts within that world. We have to learn to make connexions between the various elements and show the extent to which human beings themselves are a part of the whole and to understand that each time they act on one element this has repercussions on the whole. Individuals must understand how the whole vast world works of which they are a part. They need to realize how, whatever they think, they are a working part of the whole and hence exercise real power and that, as much on the local as on

the national or the whole planetary level. Persons must conceive of themselves as an integral element in a vast system where all reacts on all and where no one element is condemned to impotence or passivity. This amounts to a radical change in perspective.

In the majority of countries, this articulation of knowledge is left in the safe hands of the wardens of the educational systems. Teachers and trainers bear the responsibility of ushering children, adolescents ... and adults into the enclosed space where they hear ongoing debates, and are ceaselessly entreated to take into consideration new elements often linked to the obsolescence of goods and ideas, or to the latest trends or contradictory developments about living habits. Never before has there been such a throng of people, young and old, trying to get through the school doors. And yet we exhort them to sort out the meaning for themselves, to unveil the real sense implying that it is viable both for the individual and society to disentangle a complexity made up of 'ifs' and 'buts', of the uncertain and the random....

What is now demanded of teachers and educators is a task which is becoming more and more impossible every day, particularly now that they are in competition with other sources of information, with marketing devices and publicity stunts whose messages and means of persuasion deployed replace, with their terrible efficacy, the traditional gentle process of questions and answers posed by critically informed citizens or even the accumulated communal expression of wisdom emanating from (at least in principle) the school. In order to be effective, education for sustainable development has therefore to integrate this complexity into its own educational didactic process, at the risk of failing in its main objective: which is creating conditions for a viable, liveable and sustainable world for 10 billion human beings.

To fight against this piecemeal process, the only effective way to meet the new educational challenge consists in adopting a systemic approach to the whole educational field, applying to whatever question is brought up in the classroom or whatever discussion is set off by some topic of the moment. Let us take, for example, health. This clearly cannot be reduced to the absence of illness. It refers to a whole way of living. And yet when we look more closely, are we not most often bombarded with policies concerning remedies to the detriment of policies concerning prevention? We therefore need to stand back and clarify the different conceptions and above all grasp the total

picture. And we should not think that that takes place only at university level; even in nursery school, a child, given the appropriate learning context and a teacher's right pedagogical approach, can grasp the complexities of the world and learn lessons from it. For complexity does not mean complication.... Quite the contrary, complexity can lead to lucidity and is empowering. When you make a vegetable garden, you discover in a fundamentally real sense what you can do to intervene and what and when you can leave alone and simply respect, and you also discover the futility of anger and of violence. Shouting at tomatoes is not going to help them to grow!

Among the principle fields of questions which are asked about our civilisations, let us take a look several of them. First, our relation to nature, then citizenship which covers notably questions of gender and equality, racism and xenophobia, cultures and multiculturalism, non-violent conflict management, intergenerational solidarity, personal involvement in society and human rights. Then comes the field of world solidarity, bringing together questions of access to and sharing of resources, world trade and solidarity in the social economy, migrations, the United Nations institutions, Agenda 21, questions of demography, debt and poverty; and then – and these to an increasing extent – questions linked to conflicts, peace, national and international security. The field of the environment examines our links with nature, questions of the particular milieu we live in, sustainability, rational management of resources (energy, water...), urban and country planning, consumption, natural heritage. Finally the field of health, the definition of which by the World Health Organization includes paying particular attention to the impact of life habits and consumption on health and the interrelationship of health and the environment. It is through seeking links and interactions between all these problematics that our new education finds its essential focus.

With this systemic approach, young people and their educators can progressively construct a global view of today's world and acquire the keys for understanding it. They develop a critical approach, conscious of its limits and dangers, with awareness of the foundations of power and the concentration of wealth. Moving from the particular to the general, from the local to the global, from the particular event to the permanent, from the material to the spiritual and from the individual to the collective, they can take their place and participate

as enlightened citizens in constructing an inspired and sustainable human society. According to their individual personalities and their learning and training paths followed, they develop the skills and know-how which are indispensable in defining the new approaches which will lead to resolution of the societal problems of our time. In this way, dropping out of school can become a thing of the past and similarly the individual can steer well clear of consumerism and reduce the risk of psychic problems such as mental withdrawal, clinging to individual identity, helplessness or breakdown (see Annex 2).

From the disciplinary to the transversal approach

In the “roadmap for the implementation of the global action program for education for sustainable development”, Irina Bokova, director-general of UNESCO 2014-2019, stresses that “The risks to which we are exposed and the possibilities that are open to us call for a change of model which can only take root in our society through education and training schemes.” We therefore need to take a total fresh look at our way of thinking and acting, and rethink the links that bind us together and bind us to the ecosystems which give us life.

It becomes immediately apparent that only a transdisciplinary and holistic approach to planetary problems can bring about the new consciousness at the world level which will be capable of bringing about the required change in our behaviour and life-styles. This is the vital premise on which enlightened decisions can be made to effect the transition towards a world viable for all, at all levels, local, national and worldwide. Disciplines and the transversal are not separate domains. The disciplines help to understand the transversal and in that they are useful and must be developed and taught. How can we understand climate without physics, chemistry, geography, history, biology, geology...? But transdisciplinarity implies moving from one discipline to another, intertwining them and thus going beyond them. UNESCO puts it this way: “if interdisciplinarity refers to the links between the basic knowledge and the models proposed by the diverse disciplines, transdisciplinarity goes further and opens up a new vision, a new learning experience”.⁽⁷⁾

The recourse to transdisciplinarity is essential because of the changes that confront the world. We are understanding better and better the complexity and the interconnections of problems such as poverty,

climate deterioration, human rights violations, degradation of the environment, inequality of the sexes, health, etc. We can only attempt to resolve these complex problems by adopting transdisciplinary and inter-sectoral approaches.

The transdisciplinarity we are referring to requires a distinct effort to integrate knowledge and this is not a task which disciplines necessarily lend themselves to easily, and it requires us to place the human being's relation to the planet at the centre of knowledge. This means adopting a scientific and intellectual posture which can require moving between, crossing through, and going beyond, individual disciplines. Any collective work on a project therefore implies a complexity of extra-disciplinary proportions that requires patient skill-sharing and knowledge-sharing by those involved. (Annex 3)

It invites cooperation on a local level but with a recognition of the global consequences of such cooperation. We have to learn to recognize, for example, that simple daily routine actions, like having a glass of orange juice, or drinking a coffee, or putting on your jeans in the morning, using a cell phone, driving a car... always have consequences and repercussions elsewhere on the planet and affect the people living there (pollution, disappearance of species, desertification, famine, poverty ...). Only in this way will it be possible to rethink our life choices.

Education for sustainable development aims to achieve a better balance between the material well-being of all mankind on the one hand, and the cultural traditions and respect for the vital cycles of the planet on the other. To achieve this it does not suffice to reinforce learning in several disciplines. Attention has to be paid to the methods and content of education and their particular adaptation of a cultural environment. These objectives can only be met by developing creative as well as critical reflections, communication skills, a sense of cooperation, conflict management and also having recourse to a pedagogy that encourages and helps people to get involved in their community and decision-making processes. Does such an outlook sound utopian? Yes, in the sense that it calls on values which carry little weight in the day-to-day political world: taking the long-term view, accepting responsibility, expressing solidarity, acting in a transparent way, assessing real value.... No, in the sense that a growing number of educational establishments have successfully taken this path in the

North as well as the South with projects already pointing to the rise in power of participative democracy. (Annex 4).

In many countries, one can observe a growing mismatch between rather closed-off and protected areas of knowledge and realities which are more and more pluri- and cross-disciplinary and which receive little attention. Are we going to continue to reason principally according to sectoral interests for programs some of which are categorized as education for nature, whereas the others are considered education for scientific culture, education for health, the environment, climate, media, peace, international solidarity... and then all the other forms of "education for" - drawn up as the need arises by different pioneer communities according to their own specialities? Or should we not be seeking to bring together on a big scale all of these component specialities with a comprehensive strategy combining all of these aspects into an integrated approach for forming citizenship – and thereby permitting the citizen to better understand the big challenges with a commitment to construct innovative solutions with planetary implications in local communities? Of course, the basic tools (reading, writing, communicating, basic arithmetic ...) and also the specialized disciplines are necessary for personal and professional life. They remain the indispensable gateways to grasping life's essentials. But it is nonetheless the case that education is sorely lacking today because it fails to tackle the fundamental and global problems with which we are concerned here. And this means bringing together a number of branches of knowledge which are today separated into disciplines. The pedagogical approach adopted to achieve this interaction must also be capable of giving the learners the means of forging their own paths, thinking of their own solutions, and ways of crisis-solving

Restoring the links with Nature

Education for the Environment and Sustainable Development works in two complementary directions. On the one hand it is a question of creating a positive link between the person and nature by bringing them together and reconciling them, and on the other hand, providing the tools for active citizenship. Education for Environment and Sustainable Development – by facilitating the creation of direct links between the person and the tree, the person and the bird, the person and water, air, clouds... will serve to break the growing

indifference between humans and nature. The human being is part of the living, he or she is intrinsically part of nature – of nature, like all the elements in the biosphere, and not in nature as some sort of invited guest. This education for interdependence is one of the key concepts of the approach that carries the name 'ecology'.

If it appeals to reason while developing a scientific approach, it also appeals to people's 'sensitivity' and appeals to all the senses. Sensorial, symbolic, imaginative approaches combine with the intellectual, cognitive, rational – as also the playful and artistic – all these approaches complement each other. The educator is addressing the brain, the hand, the heart and the mind and spirit. The hand is there to say how much it is essential to take into account the body and how essential is 'experience' in all training programs. I do and I learn. The heart is there to link with the affective sphere often playing a determinant role in our choices made, the brain for rational comprehension and the source of knowledge, the spirit or mind for the meaning of life and our deeper intuitions. In this way 'knowing' also incorporates 'knowing how to do', 'knowing how to be' and 'knowing what to become'.

An education founded on values

The discovery and construction of values is of fundamental importance and is at the heart of Education for Sustainable Development. The plurality of cultures with which we are confronted reveals a pluralism of values, leading often to the question "How do we find our bearings among all these?" Each individual must be capable throughout life of seizing and exploiting every occasion to renew, to deepen and to enrich his familiarity with cultures, to adapt to a changing world and to question the values which justify his or her being in this world.

Education for the ecological and social transition must above all stress values which are really foundational values, not arbitrary values but values which are the very condition of our collective survival, values which find their source in what institutionalist pedagogues call 'the degree zero of the law': "Do not harm" and which set out the exigencies without which we are all collectively threatened. These values are solidarity and respect for life, dignity and the human rights of all the populations on earth, also the taking into account and respect for the rights of future generations, for cultural diversity and the protection of the ecosystems of the Earth and of all the

animal species and plant-life which live on it...Solidarity is not first and foremost a value, it is a fact. Everything that we do has an impact on the whole. As the geneticist Albert Jacquard expressed it, we are wedded to solidarity whether we like it or not. We can ignore it and let the world destroy itself or we can hold on to our place in this great chain. "Help to transform a de facto interdependence into a deliberate wish for solidarity corresponds to one of the essential tasks of education" states the UNESCO report on education for the 21st century. This education promotes commitment to more justice and social equity, to non-violence, tolerance and peace, transcending national frontiers. If education alone is not capable of the full realization of all these values, it nonetheless remains the central pillar in the strategies to be adopted to achieve them and develop them. We have today gained consciousness of the uncertainty of our future. As Edgar Morin states⁽⁸⁾: "reality is evidently not easy to read (...). Our reality is none other than our idea of reality (...) we need to be realist in a complex sense: to understand the uncertainty of the real, to know that there is the possible which is still invisible in the real." Such a reasoning can open up new democratic practices: learning to manage conflict, refuse definitive answers and certainties, as also any mechanistic vision of mankind. Ethical and humanist preoccupations come together in this approach which rises above the separation between knowledge and value.

The environmental problematic becomes apparent when societies begin to sense that their own development is becoming a threat for the survival of the human species. The reference is not that of the deterministic sciences, but the possible disappearance of the species. To this extent, the finality of science become a political question. Education itself constitutes a complex ensemble covering at the same time adhesion to values, the acquisition of knowledge and the learning of participatory practices in public life. It interrogates the conscience. And to safeguard the independence of the latter, education, taken as a whole, must also forge the critical capacity to permit free thought and autonomous action. (Annex 5)

New ways of being and thinking

In relation to the dominant economic model

Together with their pupils/students, their colleagues, their partners,

and at the heart of projects shared with the educational community, teachers must ask the essential questions in their respective subject matter but also in all interdisciplinary work and extending even to the heart of the school's administration – the questions about our ways of life founded on consumption and the permanent yearning (and consequent dissatisfaction) for material possessions, in a cultural universe invaded by publicity, generalized obsolescence, and the taste for luxury, for the futile, for the dangerous and the harmful for health. Far from carrying out small gestures which have little long-term effect, they will have to fight the dominant economic system by spending many long years fighting with their pupils and students against the prevailing system, including the trap of the obsessive attachment to competition of all against all, at the level of the school, the country and the world. For the dominant economic model is one of profitability, 'the need to come top' and get a good return for your investment and all this to the detriment of values such as respect for life, cooperation, human dignity, solidarity, diversity, autonomy, responsibility, equity, justice and the non-violent resolution of conflicts. This ideal education would also reflect on the effects of our unsustainable development on poor countries: famines, mass exodus movements of people, the reckless exploration and extraction of the remaining natural resources, life forces enslaved to capital interests....

In relation to interpersonal relationships

Those in charge of institutions or with executive positions, parent associations and other internal or external school bodies – together with the pupils and the teachers – have the responsibility of developing another approach to interpersonal relations by taking into account questions of power and authority so that everyone can be heard, listened to, recognized and respected for the individual's role and sense of responsibility. The young who will benefit from this new form of education will thus not only acquire human qualities required in order to work for a peaceful future but also qualities which are required in the world of work: a sense of responsibility, a capacity to work as part of a team, a capacity to take initiatives, to take a global approach to problems and the capacity to mobilize disciplinary knowledge to contribute to general interdisciplinary projects.

In relation to being disconnected from the land

Although many schools have initially been the product of the industrial revolution, or of the colonial era or find their origins in the multitude of different interests in different local communities, many school systems have relegated sustainability to the sidelines. A too narrow approach to disciplines and fragmented information, whose utility cannot be easily perceived, the relegation of arts and of the body, the quasi absence of collective regulation of disputes and of practical education for democratic practices, the disconnection from the land as the natural milieu, and the usually very weak links to the innovative initiatives which can be found in urban centres (equitable commerce, transition initiatives, eco-quarters, circular economy, biological agriculture, peasant culture preservation, etc.) – so many varying symptoms which demonstrate the recurring failure of educational structures to adapt to systemic approaches.

In spite of all this, the signposts to change have now been clearly fixed. Engaging the school on values, such as inter- (or intra-) generational responsibility or that of common but differentiated responsibility of all human beings (principals 3 and 7 of the Rio Declaration), the collective commitment to a more just and peaceful world (principal 25) imply three major breaks with current practice heretofore: an interdisciplinary approach; a link between knowledge acquisition and concrete commitment to projects; a lived experience of exercising responsibility. In this context, “the need for awareness of the importance of life cycles is essential” claims Michel Puech.⁽⁹⁾ Life is maintained and developed through cycles which, often, are broken by human intervention. Moreover, training (through ‘concrete’ examples) supposes that educational programs are rooted in a particular context, in a specific place, which supposes the full co-responsibility of local public authorities, of educational institutions and of young people themselves and very often of other local actors (enterprises, public services, associations) in the project’s conception and implementation. In this way is born the notion of ‘network’ involving knowledge transfer and sharing, the confrontation of ideas, the building of links for innovation, the diffusion of information and successful experience. The surrounding territorial area is available for the experimenting and perfecting of what was introduced in the

school, its contextualization, its illustration and even its full implementation in the case of common projects worked out with local partners in or out of school time. Many local and regional actors have worked with schools on common projects concerning citizen initiatives aimed at world solidarity, thus helping the young to make the link between their local commitments and global concerns. (Annex 6)

In relation to the principle of uncertainty

If the sciences have led us to acquire many certainties, they have also revealed, particularly since the middle of the 20th century, domains of uncertainty, whether in the physical, biological or historical sciences. Teaching programs should bring out these uncertainties. If disciplinary bodies of knowledge are organized around questions structured on theoretical presuppositions, it is essential that education is structured also around concrete problems to be resolved, depending of course on the manner of operation as well as on the context in particular situations.

Edgar Morin writes that “knowledge means navigating in an ocean of uncertainty through archipelagos of certainties”⁽¹⁰⁾. The German philosopher Hans Jonas, for his part, insists on the complementary character of learning and ignorance: “Faced with risks on the global scale,” he writes, “it is appropriate to treat doubt as a possible certainty and therefore as a fundamentally positive element in decision-making”.⁽¹¹⁾ Knowledge becomes a place of complementarity between disciplinary knowledge, interdisciplinary knowledge, and the knowledge of the surrounding land and as well as the knowledge emerging out of everyday life. The general method is similar to the process of resolving a problem by emphasizing the general understanding of the situation in which the problem is located, thereby throwing maximum explanatory light on the problem. In this way education privileges the natural aptitude of the mind to pose questions, to give full rein to the natural curiosity of the child or adolescent, thereby providing maximum stimulation. Whereas only too often traditional education snuffs out this curiosity. Education should rather bring the pupils closer to the complex, to the context, in a multidimensional way, adopting a global conception of the problem.



Pedro, Chan, Alexey, Faizah, Naoline, Landon, Asma, Florent... "In fact and whatever you think – as Philippe Meirieu says – you have at your disposal a real power to act and influence the world and that, at both the local, national and global level. Each one of you should think of yourselves as an element working in solidarity as part of a vast system in which everybody acts for all and where nobody is condemned for lack of power or passivity".



A school garden in Andavakoeran, Madagascar.

How do we bring about educational change?

Transforming a being in flesh and blood into a person who is capable of leading a fulfilling life of enlightened, peaceful values, showing respect for all forms of life, is not exactly an easy task. Education is one of the foundations of civilization. Neither more nor less.

Whilst our focus here is on school, we should not forget that it should not be regarded as the cause of all that is wrong with

our society; unfortunately it is very often a reflection of society and will always be partly a mirror image. Nor is it, as we have already said, the unique source of education. Many other actors share this task and make us what we are: family, friends, the City, work, leisure activities, what we read, the media, not forgetting advertising, the latter being all the more powerfully intrusive for being surreptitious: a North American is solicited by 'ads' up to 3,000 times during the course of one day. In France, for example, children spend almost 16 hours per week in front of the TV – and the statistics show this time is still increasing. We are not far from the 24 hours that a child spends in primary school.

Removing the structural and organizational obstacles in educational systems

The structural obstacles

There is considerable evidence of an increasing separation of school from the environment: a survey carried out in 2013 reports that one school-child in three cannot identify a leek, a courgette, a fig or an artichoke. One quarter of them do not know that 'French fries' are made from potatoes⁽¹²⁾. How do we explain this alienation? What are the factors at work which resist the information and scientific evidence dispensed by States and official purveyors of knowledge?

The whole lifestyle which is progressively taking over the world is what it is because of the exploitation of cheap and abundant energy supplies, with people having a blind faith that such a situation is to be taken for granted. School itself, being the emanation of society, tends simply to reflect this. By their history, structures and culture, inherited from the industrial revolution, our educational systems therefore tend to hinder, rather than to welcome and nourish, our transition towards a sustainable society.

The prevalence of a book-based approach to knowledge acquisition in our educational systems constitutes a profound structural obstacle. Teaching by discipline/subject, whilst necessary, can, if interpreted narrowly, hinder an appreciation of the complexity of the world. Emphasis on specialization can

confine the teacher to the role of the 'expert' who 'dispenses' a specific body of knowledge standing in front of the pupil whose posture can easily become a very passive one. This is where different pedagogical techniques, where the learner assumes a more active role, become very important. This does not imply a diminution in the teacher's role, but quite the opposite. Organizing learning situations and helping to bring about discovery becomes a very fulfilling task.

Organizational obstacles

The organizational obstacles in schools result from the structural ones, and often amplify them. Here we list a few of the most recurrent ones in many countries:

- The lack of general training and of communication skills in management
- The insufficiency and inadequacy of initial training
- Administrative and legal constraints
- The lack of time-space for internal dialogue/consultation, organizing projects, meeting with external partners and field trips
- Insufficiency of in-service training
- The lack of recognition/esteem for the educating mission of teachers
- Limited access to teaching aids
- Lack of budget for financing projects

All these deficiencies lead to a certain malaise and demotivation in the teaching profession and accelerate the anticipated departure of many of them, provoking what in many countries is called a shortage of "vocations". They relate also to the increasingly pronounced commercialization and privatization of the profession, consolidating a two-tier system, one private and reserved for an élite and the other provided by the public authorities for the rest of the population but with reduced means invested.

Working for change inside the system

The first lesson in a systemic analysis requires us to look globally at a structure as complex as a school. And one thing becomes immediately obvious: profound change must come from the school itself – the need must be felt, wanted and brought about inside the school itself. But what does the word ‘school’ cover? We can no longer give the restricted traditional meaning to the word – where the school was a restricted space dedicated to the transmission of knowledge. As a place for learning par excellence it belongs to the population of a particular area and the population participate in its life. Therefore the ‘territory’ itself (village, town, suburb....) should be qualified as a ‘learning area’, with therefore its attendant educative function.

Einstein said that “a problem cannot be solved with the regard and the mentality of those who created it”. There is a need to innovate. Not by a new law, but by new methods. If the State is charged with defining the school objectives and giving it the means and tools to carry them out, it must also give it the autonomy that is necessary to adapt as effectively as possible to its ‘users’ (public) and to its territory. To achieve this, nobody is better placed than the pupils and teachers of a school to cast a critical eye and propose a strategy for change. And to do this, there is no doubt that they will enter into dialogue with the parents, elected officials, associations, businesses and the agricultural world – all these organized forces in society can contribute to the educative function which is necessarily a collective endeavour. Out of the solidarity displayed in the participative management of the educative function can emerge a form of collective intelligence. (Annex 7)

Life-long training for teachers

It is through identifying, defining and tackling problems that teachers themselves understand and demonstrate the processes that constitute the educational process in general for all of us. For trainers and educators, we should emphasize life-long training, rather than limited in-service training, and one in which there is a constant dialogue/dialectic, with a constant ‘to and ‘fro’ between reflection (or research) and practice.

In this way, intellectual procedures as well as the sharing of practical experience are intertwined with personal commitment and investment, thereby replicating the basic notion of the educational process from which students and pupils themselves will benefit and themselves practice. (Annex 8)

Valorization and mutualizing of experiences

We need to stress once more that only pedagogical inventivity will equip the teacher, and hence the pupils, to take part actively in societal changes, and more particularly to inculcate respect for others and respect for the planet. This inventivity acts at the interface of disciplines and also reinforces the links between school and the local and international community, so that education develops in symbiosis with its environment and the rest of the planet.

These initiatives exist in the majority of countries. Alas, they are often isolated and die out because of a lack of valorization, evaluation and means of diffusion. Highly motivated teachers can too often become discouraged because they are isolated and lack a support structure, being often not understood by their administrative hierarchy. But there are glimmers of light everywhere. The setting up of initiatives, supported by the public or other organizational authorities can serve as examples of how to proceed. Examples such as the Verts Brundtland establishments in Canada or the "Education 21" initiative in Switzerland can serve as models, pointing the way forward as models at all educational levels, from nursery school to the university.

Such examples can lead to a more generalized formulation of overall directives, which can then be applicable to thousands of local situations and linked to an infinity of teaching practices. Each scenario will have its own local distinctiveness and relate to a local community's culture and traditional know-how. The diffusion, dissemination and mutualization processes are essential, from the general level to the particular and also from the particular to the general. Here are some ways in which teachers can play their part in this continuing process:

- They can receive new ideas from elsewhere and discuss with colleagues their relevance by first analyzing and interpreting the information in a variety of ways
 - They can assess its relevance by reviewing their own range of intellectual skills, including comprehension, analysis, application, evaluation, in order to assess the possible direct applicability of the new ideas to their own situation.
 - They should generalize the purpose of any change envisaged or recommended and thus consider re-interpreting the information in a different and more appropriate way to their local situation;
- From the pupil's point of view, the need for any project to be anchored in a local context is of primordial importance. The situations are real and should thus should also be considered in a global context. From this perspective, contributions from different disciplines should be considered and a global approach to presentation adopted. The pupils themselves should be encouraged to take initiatives. In this way, the school becomes a place of reflection and of action, a place where sustainability is a central concern.

The project therefore acts as a lever for the whole educational system so long as it is accompanied by the political will. By accepting to be confronted with contextualized and complex situations, the teacher transcends the limits of the normal school world. The teacher becomes conscious of his or her actions and overcomes the dangers inherent in projects by bringing his own experiences into touch with those of others. (Annex 9)

The school as an institutional support for education and training

Integrating global education into a school presents a real opportunity, in particular concerning technical and professional education, areas which are, alas, not those which spring to mind first in many ways, when global education comes to be discussed.

All new project work must pass through pupils' own consideration of its value, and demonstrate thereby that the 'learners' and the professionals of education are not to be considered as on two

sides of a barrier. Getting the pupils to ask questions (and ask questions of themselves) about ways to improve such or such aspect of school life – in a scientific workshop or laboratory, in a seminar or classroom situation, or in the school's kitchen – such an involvement gives the young person concerned a certain 'posture' – that of 'actor' and hence 'citizen' and not just 'recipient' of an education. This prompts the pupil to think of his own environment, his health, his security, his well-being and his social relations in the classroom or in the school and outside.

In this way, the young person is going to become, step by step, a practitioner of Sustainable Development. By working on a project in a participative way, he or she develops concrete and direct experience which can only be of benefit in future life. Not only in terms of a future useful work career but also in terms of behaviour, a critical sense and a sense of initiative and responsibility. And this is linked, both for the school and the individual, to Sustainable Development.

For all these practices ask questions of the resources utilized, where they come from and their social and ecological impact, both here and elsewhere. All of life therefore, in all its complexity, emanates from this school experience, which becomes in fact the prime agency for an education in global citizenship, as well as for an economic and industrial activity founded on the principles of sustainability.⁽¹³⁾

Working in partnership

The complexity of environmental and social problems necessitates continuing education for everybody. To achieve this, the continuous training of teachers, territorial agents and other educational actors in environmental education (EE) and education for sustainable development (ESD) is fundamental.

To achieve this, partnerships between local government organizations and associations are to be encouraged with the aim of training in EE & ESD to enrich all local and regional life. The training of agents for all territorial projects (agenda 21, Climate Plans...) aims to develop transversality of services, participative democracy and citizen participation.

Organizing co-training programs, bringing together school and other actors with complementary experience (actors in associations which promote EE & ESD, local governments, businesses and agricultural interests) will bring about a cross-fertilization of visions, approaches and practical experience.

Today, local government agencies are already largely implicated in working alongside civilian organizations in running awareness-raising programs and education for climate change. Four major dynamics and action programs have already been referred to. Going beyond their integration into all the initiatives of the agencies already involved, there is now an attempt made to involve other forms of governance, both at the local and international level, working notably with local actors in the cultural sphere and in the arts. These latter areas are going to be indispensable in changing mentalities and heightening personal sensitivities towards a deeper and more deeply felt conviction of the need for change. Activities based on artistic creation, on exploring local cultures and also native languages can become key factors in facing climate change. Traditional knowledge of indigenous culture can be tapped to better understand and anticipate the natural world. (Annex 10)



So that you Pedro and you Chan, you Alexey and Faizah, and you Naoline, Landon, Asma, Florent and all the others, may come to live in a more peaceful and responsible world, in a spirit of solidarity, this is what we expect of the Heads of State who are going to meet in Paris. We want to construct a world for you and with you, a world in which 'contented sobriety'⁽¹⁴⁾ will replace the frenetic consumerism which is being indulged in by the privileged and to which the excluded aspire. But this can only come about by making education the priority.



Tanat School
in Abalak, Niger.

We all bear responsibility for future generations

In receiving the world on the occasion of the World Conference on Climate in Paris in December 2015 (COP 21), a big question is whether France will seize its historic chance to introduce education in the negotiations on climate change. This is the time to move into top gear and at last to deliberate at the highest level on a political declaration which would bring together States, regional and local authorities, the United Nations and international civil society, in

order to integrate into future international climate agreements the necessary new structural, juridical and financial instruments to change scale in the educational transition.

Given the enormity of the issue at stake, the 'Paris-Education 2015 Collective' has pleaded, published and campaigned that education should no longer be considered as 'off subject' in the climate negotiations. A major step should soon be taken in this direction: since the end of 2014, in response to our solicitations and exchanges with the Presidency of the Republic and with the Ministry of National Education, France has decided to organize, as part of Paris Climate 2015, a Thematic Day devoted to education. This unprecedented event is a source of hope which could already produce its first fruit in COP21 and blossom even more soon after, in the COP 22 to be held in Morocco in December 2016.

While looking forward expectantly to these major encounters, we should not wait but already proceed with laying the groundwork and preparing as much as possible for the 'educative transition' that we need everywhere for our children and youth, today and tomorrow.

This is why we appeal to all those who have an educational mission:

To parents, first, we ask you to have your children discover in daily life, as young as possible, gestures of solidarity, and practice respect for self, for others and for the environment.

To teachers, second, we ask that, without renouncing your regular teaching, you spend some time relating the subject taught to the impact which it will have on the future of the planet, and also encourage all forms of discussion and exchange which fight against individualist withdrawal from social responsibility.

To the directors of schools and other educational institutions, we invite you to implement, day after day, all possible measures promoting responsibility in terms of attention paid to the environment, health, citizenship and world solidarity.

To partners of schools (associations, artisans, businesses, local government agencies...), we encourage you to establish partnerships allowing experimentation with new forms of solidarity, in work and collective life, with protection of the natural and human environment.

To educators and activity leaders, we invite you to work towards achieving the participation of all in sharing responsibility for the common collective good of all.

To the media, we enjoin you to do all you can to raise the awareness of children and young people on questions concerning the future of the planet and living together, without trivializing or alarmism.

To all, we ask you to work on a daily basis with the children, adolescents and young adults under your responsibility, to help them to control capricious behaviour and turn away from frenetic consumerism, to help them to modify any 'wanting all, all at once' petulant attitudes and help them to anticipate the consequences of their acts and reflect on the consequences in the light of scientific and cultural examples... in brief, to help them develop mature thought, giving them the means to be real world citizens.

An Appeal to the Heads of State

As for States, we plead with them to set up a "global fund", to re-think curricula and teaching approaches, to integrate eco-conditionality into all investments, to develop all forms of aid to avoid unnecessary energy use, and to encourage reciprocal cooperation between individuals, groups and entire peoples.

For Humanity is committed to a major culture change. Whatever the solutions that technological progress will offer, faced with this transitional ecological imperative, public action disposes of three fundamental levers to move society forward: law (to constrain and control); fiscality (to encourage); and education (to understand and engage).

In the field of education and training, awareness-raising and information, to rise to the heights necessary to invert the curves at the global level, the world community has to change its scale of operation in two parallel directions:

- on the one hand, by generalizing 'inclusive education' and quality education for all everywhere that it is lacking;
- on the other, by the transformation of educational systems inherited from the industrial revolution, to place sustainability at the heart of educational practices, structures, methods and content.

These two colossal challenges require massive investments to engage people, train teachers and transform places of learning (integration of sustainability in schools), investments which are inconceivable at constant costs for public education budgets, and for which no large-scale financial instrument exists for the moment. Yet these educational investments without precedent are not only vital for our survival, they become possible and realizable at the very source of what has provoked their necessity in the first place: by transforming the cause into opportunity and by organizing this massive educational funding through compensation payments from the emission of greenhouse gases.

For, it needs to be said, for how much longer are the Member States of the Organization for Economic Cooperation and Development going to spend – in order to uphold the continuation of the use of fossil fuels – double (160-200 billion US\$) the amount required to attain the objectives for financing the fight against climate change (100 billion US\$)?⁽¹⁵⁾ This massive and wasteful aid given to fossil fuels must progressively be reoriented to help the emergence of non-fossil clean and renewable energies and to support this movement with an ambitious sustainable education and training project for all people throughout the world.

Very concrete proposals

Educating our children and young people in a way which, from the nursery to the university, embodies sustainability, is an absolute priority and a fundamental condition for engaging the whole of society in the transition. This is why States must decide to construct the necessary mechanisms to accelerate the educational transition by devoting an important part of the income from the carbon tax to:

- 1) National and local plans for education for all and the educational transition to Sustainable Development
- 2) A world-wide fund for the educational transition to be placed under the joint governance of the United Nations and international civil society, including local authorities, businesses, universities....

It is therefore urgent to create and to give a practical structure to:

- New mechanisms of solidarity (based on reinforcing existing ones

when they are efficient) in order to implement the 'Education for All Goals' in all countries, to be paid for by the redistribution of carbon tax income from those with the highest emissions towards those with the lowest.

- A world consultation forum for Environmental Education and Sustainable Development, (EESD) based on the model of the IPCC (Intergovernmental Panel on Climate Change) in the scientific field; to coordinate and synthesize world knowledge and know-how on educational transition and to advise governments on the matter; such a structure should be made up of a network of high-level research institutes covering all regions of the world, bringing together the best talents for research and development of content, tools, teacher training methods, exchange of good practices and the coordination of political and educational decision-makers.





Tanat School in Abalak, Niger.



Pedro, Chan, Alexey, Faizah, Naoline, Landon, Asma, Florent... here we are at the end of this Manifesto which we have written with you in mind, as well as the other 10 billion human beings who will be living on this Earth in 2050.

By way of not concluding...

As educators, organizational leaders and politicians who are working together within the 'Paris-Education 2015 Collective' – together with all who have the same commitment throughout the world – we want to offer you an education that will give you the necessary 'baggage', in order for you, with full freedom and awareness, to make your own choices, develop your critical faculties and commit yourselves to action in the world, in full awareness of what is at stake. Whatever our roles in life – parents, workers, citizens, community leaders, trade unionists, business leaders, agriculturalists, YOUR education matters to all of us! We owe it to you! And it will accompany each one of you throughout your life. And this education, in all its different facets, strives to achieve a new way of living on Earth. There is little time to achieve this, but in this quest, we are all together: we, like you, are learners.

In their fine study 'Why Equality is better for Everyone', Richard Wilkinson and Kate Pickett write: "We must create more

egalitarian societies capable of meeting our real social needs. Following policies to fight against global warming which will be perceived as imposing limits on satisfying our material needs will not be enough. These policies must go along with egalitarian policies which will lead us to new and more fundamental ways of improving our quality of life. The change must come from making a historic shift in the source of human satisfaction. We have to come out in favour of a more friendly society rather than one based on economic growth."⁽¹⁶⁾ This means replacing frenetic consumption of what is running out, and switching to sharing what will never be in short supply: the satisfaction of understanding, of sharing, of creating and building together a world which is progressively more human.

Is there any more fundamental role for a school than bringing about this historic shift? This Manifesto has had no other ambition than to point out some of the paths to follow in order to bring about this change, and to appeal to others, sharing the same educational concerns, to join us in this adventure.



ANNEX 1

• The 193 member countries of the United Nations voted in September 2015 the following 17 Sustainable Development Goals, as defined in “Transforming Our World – the 2030 Agenda for Sustainable Development”.

1. No poverty: End poverty in all its forms everywhere.
2. End hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
3. Good health and well-being: Ensure healthy lives and promote well-being for all at all ages.
4. Quality Education: Ensure quality and equitable quality education and promote lifelong learning opportunities for all.
5. Gender equality: Achieve gender equality and empower all women and girls.
6. Clear water and sanitation: Ensure availability and sustainable management of water and sanitation for all.
7. Affordable and clean energy: Ensure access to affordable, reliable, sustainable and modern energy for all.
8. Decent work and economic growth; Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
9. Industry, innovation and infrastructure: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
10. Reduce inequalities: Reduce inequality within and among countries.
11. Sustainable Cities and Communities: Make cities and human settlements inclusive, safe, resilient and sustainable.
12. Responsible consumption and production: Ensure sustainable consumption and production patterns.
13. Climate Action: Take urgent action to combat climate change and its impacts, acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.
14. Life below water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
15. Life on land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt bio-diversity loss.
16. Peace, Justice and Strong Institutions: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
17. Partnerships for the Goals: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

ANNEX 2

- **Student 'Think and Do Tank': 'CliMates'**

"CliMates" is an international studentest Think & Do Tank aiming at several goals:

- Finding innovative solutions for world global poblems linked to climatic change;
- Making heard the voices of students from the whole world;
- Having an influence on decision-making and drawing up policies

"CliMates" has four principal teams: Research, Action, Training, Communication & Partnerships.

The majority of members work on research projects spread through the 4 principal categories: oriented towards action, collecting information and constituting data bases, international climate policy and international climate negotiations.

The action team aims to raise awareness and mobilize the young on the question of climate change. In September 2013, "CliMates" organized a regional climate workshop at Bogota (Columbia), bringing together 40 young leaders on Latin American climate problems for a week of activities and sharing information.

From October to December 2013, a conference of those taking part in the MyCity project was successfully launched in 16 cities throughout the world, mobilizing 500 young people. The idea is to create a community of young experts on climate who meet before major events in order to make their contribution to the international meetings on climate change.

"CliMates", A Conference of the young before the COP21.

www.coy11.org/fr — www.studentclimates.org

ANNEX 3

- **Interdisciplinarity viewed by a teacher and by an artist: France**
- **Active pedagogy: Germany – Finland**

In interdisciplinary work structured in groups working around precise themes, numerous notional objectives are developed which relate also to disciplinary programs. Beyond the disciplines, transdisciplinarity gets closer to the complexity of the subjects chosen. Issues here concern economics, politics, social questions and also public health, degradation of the environment and urban and country planning. It is the cross-disciplinary aspect which gives coherence to the whole project. Gradually, throughout the year, students put together a system by relating data to their own discoveries. They view themselves as part of the system and become conscious of their responsibilities. They thus become involved

in proposing solutions which are less damaging to the environment. Students offer solutions, including fictional ones, so that the imaginary becomes part of the process.

This type of project in which the pupil becomes the actor and author of learning schemes, gives value and a sense of responsibility to the pupil. The pupil no longer has the built-in reflexes of the consumer. He is member of a class and as such of a micro-society. The collective sense does not destroy individual identity, quite the contrary. The emotion is palpable when a pupil, who refused to participate at the beginning of the school year, can now declare before a hundred people "we must reflect on our acts for the sake of our children and our grandchildren".

"For the artist who often works alone, workshops are privileged moments where he can 'put across' his passion and his motivation. He can exchange his work and share with other artists, as well as listen to the points of view of other pupils, who develop their critical sense and analytical skills. He can improve his visual aptitudes and realize that photography has its uses for self-investigation as well as being an opening on the world; hence the visual image created can say as much about the person taking the image as about the subject treated itself."

"For six years I have run these workshops and always with the satisfaction of their utility in opening up the minds of young people through photography and demonstrating that the visual aspect is as valuable as other analytical tools concerning understanding the environment. In fact, the pragmatic, the rational and the artistic approaches complement themselves and enrich the pupil's understanding without getting stuck in stereotypes, taking into account the pupil's own perceptions, his own feelings, and in this way I am acting as a facilitator, 'opening windows' as the writer Jean Giono liked to put it".

Jacqueline et Denis Charron, Jean-Paul Robin: "Éducation à l'environnement, la pédagogie revisitée", Ed Scéren, CRDP, Académie de Grenoble, 1995

In Germany, active pedagogy is an integral part of all teaching situations right up to the school leaving certificate.

https://fr.wikipedia.org/wiki/P%C3%A9dagogie_active

Finland is about to introduce an ambitious reform aimed at considerably reinforcing the collaborative nature of the learning/teaching process, laying a lot of emphasis on transversal and transdisciplinary skills. In this way the pupil is often allowed to work simultaneously with several teachers.

<http://www.cousnousils.fr/2015/03/24/la-finlande-veut-mettre-fin-a-l-enseignement-par-matieres-565719>

ANNEX 4

• The UNESCO Associated Schools Network (ASPnet)

Founded in 1953, this worldwide network brings together 10,000 educational institutions in 181 countries. The schools and the teachers of ASPnet are encouraged to conduct interdisciplinary pilot projects on one or several of the four principal theses of study, covering a large range of interdependent sub-subjects: education for sustainable development, peace and Human Rights, intercultural learning.

In encouraging schools in different countries and continents to build strong ties and carry out common projects, ASPnet is fulfilling one of UNESCO's major functions: to act as the catalyser of international cooperation. Good practices are therefore promoted in the context of quality education for all. The network has its annual publication, *Collecting together good practices*, in order to promote the best examples which can be of benefit to ASPnet schools throughout the whole world, at all levels of school education.

Special campaigns aiming at mobilizing UNESCO associated schools are held on specific teaching themes. These are then fed into the general distribution of information purveyed by international themes promoted through day, weekly or annual programs. In this way, similar activities can quickly grow up. And this is the way in which new models of educational courses can be tried out. Themes have already been tested including education in human rights, the prevention of HIV and of AIDS, desertification and hunger throughout the world.

In this way and in numerous cases, ASPnet contributes actively to reforming and renewing the educational system in several member states.

<http://www.unesco.org/new/fr/education/networks/global-networks/aspnet/>

ANNEX 5

• Let's Take Care of the Planet

What happens when young people question and come into contact with major decision-makers concerning socio-environmental and climatic questions.

Coordinated at the French and European level by the association 'Monde pluriel', the project 'Let's Take Care of the Planet' aims to take into account and develop the opinion of the young. It recognizes their capacity to assume both individual and collective responsibilities and to carry out local projects related to planetary themes.

The Second European Conference of young people's 'Let's Take Care of the Planet' took place in May 2015 in Brussels at the headquarters of the Regional and Social and Economic European Committee. 85 young people from 14 European countries (Belgium, Denmark, Spain, France, Georgia, Italy, Lithuania, the Netherlands, Poland, Portugal, Roumania, Russia,

Sweden and Turkey, met together to debate and promote sustainable societies. Together, they drew up an Appeal for co-responsibility delivered to decision-makers, together with posters and video messages. All these activities were a form of preparation for the COP21.

The Appeal for co-responsibility was in two parts: the commitment of the young and challenging the decision-makers. First, they formulated their conclusions and actions decided together in their theme-based workshops (Biodiversity and Natural Resources, Energy and renewable resources; solidarity and citizenship, Health and well-being; Production and consumption).

1. Setting out the priority issue decided by each workshop;
2. How these could be easily translatable into school practice, whatever the national context of the country concerned;
3. Be especially open to the points of view of young people and motivate them for action.

Second, they challenged decision-makers with concrete proposals and requests, based on discussions held with the experts and elected officials during the Conference, with a role play designed to define the type of actors who could be mobilized on behalf of the young. They targeted six types of key decision-makers: heads of establishments, mayors, representatives of international institutions, heads of businesses, journalists and artists. They also prepared the scene for the formal reading of the Appeal which took place in the closing session.

This Appeal for co-responsibility has already been presented to a number of personalities and will be taken to the COP21 by a delegation of young Europeans, representing thousands of young Europeans. This Appeal will also serve as a tool for confronting heads of establishments and local elected officials.

Drawing up this Appeal gave the young experience in the concept of 'edu-communication', exploring the use of new forms of expression to defend and share their ideas with others. Such training in collective production reinforced group cohesion and the sense of collective solidarity. Plus, the attention paid to this Appeal by decision-makers has a symbolic importance and gives increased confidence to the young, as one young person returning home to the Ile-de-France area around Paris commented: "I didn't realize that our voice could be taken into account".

<http://careplanet-europe.org> — www.mondepluriel.org

ANNEX 6

• "Education for all": Algeria

The Framework Partnership Agreement between the Algerian Government and the Non- Governmental Organization R20 (Regions of Climate Action) aims at drawing up and carrying out a 'green economy' pilot program for the 'wilaya' of Oran. The R20's main purpose was initiating and implementing

low carbon mission development projects, stressing selective sorting of household waste in two districts of the city of Oran, covering about 8,000 households with about 45,000 inhabitants

The project has two objectives: raising awareness of the residents and businesses in the two districts on the practical aspects of selective sorting of waste, and also coordinating the efforts of all those concerned in successfully introducing it: the public authorities and regional bodies, the economic operators, as well as the local organizations and the media.

This meant specifically:

- training, educating and winning over the targeted public – general citizens, the young people and not so young working together, counsellors, teachers and pupils, organizational leaders, district wardens, and other key persons, such as caretakers, managers of apartment buildings (50 teachers, plus 100 pupils 20 agents). These ‘ambassadors’ could then have the necessary knowledge and convictions to work on the rest of the population, organizing local open training meetings or working from door to door (thus reaching out to 10,000 citizens). The work involved also making practical arrangements, such as acquiring the necessary containers, disposal vans, choosing places for the recycling collection centres and the local placements of the bins/garbage containers.
- The work also involved training diverse groups to work together for the sake of the community as a whole. It also meant developing communication strategies, and drawing up a guide of good practices.

We noted the following results:

- A gradual change in attitudes and behaviour of the residents, with the development of new reflexes in terms of eco-citizenship.
- An improvement in urban civic surroundings, with more attention paid by local authorities to planning a better urban environment, with recreational spaces and street lighting.
- A gradual but constant increase in the quantity of selective recyclable waste by the residents of the districts, from the launching of the project up to the present day.
- An increasing interest in enterprise creation and the development of practical ideas for recycling waste.
- Growth of interest by other residences and sites for further spreading recycling, with the support of the R20 MED for eventual extension of the project to other districts.

Each citizen, both male and female, both young and old, must become aware of both their rights and their duties as active participants in the community by supporting projects which have both quantitative as well as qualitative repercussions for protecting the environment.

<http://era.dz/2014/r20-projet-pilote-de-gestion-des-dechets-menagers-a-oran/>

ANNEX 7

• Setting up a new education policy: Belgium

In the Walloon-Brussels federation, a new agreement for cooperation relating to education for the environment, for appreciation of nature and of sustainable development was signed in 2012 by the three governments, Walloon, Brussels and the Walloon-Brussels Federation. Subsequent to this signing, the Assizes of the Information and Diffusion in Environmental Education, under the aegis of the 'Réseau Idée', were held bringing together and mobilizing many schools and associations. Following soon after this an evaluation of practices in EESD in secondary schools, both the regular and specialized schools, was carried out by the Inspectorate. If the overall assessment was positive, showing the richness and relevance of the projects, this audit pointed to a certain lack of systemic approach and weaknesses in assessment procedures of the activities undertaken. Recommendations were made: a need to professionalize the EESD practices in the teaching profession: to give EESD a more structured place within schools, and in general to reinforce the place of EESD in the educational systems.

<http://www.assises-ere.be/>

Moreover, a EESD Collective was set up, with the following objectives:

- Creating a permanent location for teachers, a platform for sharing experiences and skills, for collaborating, creating joint programs and keeping up with the latest developments in EESD. The centre receives associational support in setting up a more systemic approach to environmental education. Researchers in pedagogy and in sociology in the universities and other specialised institutions are also important allies in construction this project.
- Reinforcing the place of EESD in all the natural partner forces working with schools: politicians at all levels of power (from the municipal to the federal), trade unions, parental associations, the Organizing Powers, and federations of directors.
- Registering this important movement in the UNESCO ESD program (the Nagoya declaration, November 2014 .
Contact: yves.reinkin@skynet.be

ANNEX 8

• Research Action: Vietnam

• From post-school education to life-long education: Arpège - ENSI

Vietnam is one the ten countries most vulnerable to the risks linked to climatic change. A programme of 'research-action' was set up in 2013. A collective of organizations including research centres, more or less linked to the State, and both public and private university structures, work together

on an approach directly linked to the challenges linked to Sustainable Development posed by the effects of climatic change. Under the authority of the national ministry of Education, new school textbooks are being compiled in order to ensure the implementation of an innovative EESD program in all schools in Vietnam after 2015.

<http://www.triviet.org.vn/>

The functioning of a research-action network in France: the ENSI

In 1990, France participated in the international project entitled Environmental and schools initiatives Project., as part of the CERI activities which are linked to the OECD. The ministry of National Education had chosen a dozen PAE spread across primary and secondary schools. The participating countries all adopted the following criteria: promoting environmental consciousness and the active commitment of pupils (initiative, independence, involvement, responsibility). The project functioned on three levels:

- 1st level: identification by each participating country of existing initiatives in environmental education or the launching of new initiatives in establishments considered to be particularly innovative.
- 2nd level: analysis and reflexion on the relationship existing between the school experiences and the development of an environmental education policy in the Member states.
- 3rd level: consideration of recent developments in the sciences linked to the environment and an examination of their pertinence in environmental education.

Each team was made up the team itself responsible for the school project, together with an inspector in charge of overall promotion, direction and training, and also a regional training officer (both initial and continuous training). The value of this team composition resides in the fact that the members were able to undertake genuinely linked research/action initiatives with clear delineation of the objectives and a rigorous evaluation of their implementation all of which were then assessed in national meetings chaired by the national inspector in charge of environmental education and the coordinator of teaching methods, which meant that the results obtained were transferable in practice. This school-based project thereby ensured a clear link between theorization and practical implementation. In a first stage, each team examined its own project by means of common evaluation worksheets drawn up at the national level, which thus permitted effective comparisons of the various projects. By a mirror-effect, each team received a clear image of its own project. At a second stage, each team could review its own project in the light of the reports submitted by the others which could lead to further reflection. In this way, the teams gradually passed to a more clearly formalized definition of the bases of Environmental Education, to the creation of new tools, better forms of quality assessment and the teachers' awareness of a valuable added dimension in exercising their profession.

An annual meeting brings together all the national leaders of the projects in each one of the twenty participating countries and training sessions are also held two or three times each year for the national coordinators. Moreover, this research-action project has also had an impact on national general policy-makers, leading to propositions for a much greater recognition of Environmental Education in the national curricula of primary and secondary schools, as well as in teacher-training programs.

www.ensi.org et Maryse Clary, Pierre Giolitto: "Éduquer à l'environnement", Hachette éducation, 1994.

The ARPEGE project (a French acronym for a Program of Regional Support for the Promotion of Education in the Management of the Environmen run by the GREFE in association with the University of Liège, originally set up by the Commission for the Indian Ocean at the request of the Stats concerned and financed by the European Union, has had as its main objective the training of counsellors and of 175 teachers in 60 pilot schools, as well as developing pedagogical tools and introducing environmental projects in the curricula and school practices in the four Indian Ocean islands, (Madagascar, the Comorres, Mauritius and the Seychelles).

With a participative and pedagogical approach, and frequent liaison between work in the field and initial training periods, the program has evolved gradually. The regional promoters of the project developed training seminars and then trained the teachers and accompanied them in setting up classes in their own schools. A program of International Technical Help was on hand to provide assistance at various stages in the training and implementation stages. But, pedagogical tools were developed very much in conjunction with local teachers and thereby respecting the specific preoccupations, requirements and possibilities in each of the widely scattered islands concerned. To introduce innovation in a system which was already well established meant that there had to be constant interaction with all levels of the educational system and to make use of the 'skills approach' methods already pursued by UNESCO.

It is up to each society to define its own model of development in the matter of environmental management. Any intervention must be guided by a system of values which is primarily concerned with individual self-development in the specific context in which the teacher lives, with the appropriate system of values of the people concerned. But, taking context into account, it has been indispensable to take into account other priorities, the reduction of poverty, education for all, and education for a better diet...
commissionoceanindien.org/publications/archives/

ANNEX 9

- The Brundtland Schools
- Green Schools: Ireland

- **The School Agenda 21: France**
- **Solidarity Cooperative: Québec**

The Brundtland network of Green schools (EVB-CSQ) was born out of a collective dream of hundreds of individuals who believe in the present generation and in future generations, whilst sharing the hope of a better world for everybody, both here and elsewhere on the planet.

Started in Quebec in 1993 by a group of affiliated Quebec trade unions (CSQ) in collaboration with partners such as RECYC-QUEBEC, the EVB-CSQ network now counts more than 1,400 institutions who have become members.

Composed of a majority of primary and secondary schools, the network has progressively widened its membership to conclude other trade union affiliates: colleges, nursery schools, adult education centres, centres for professional training, office blocks (with RECYC-QUEBEC), the health sector, etc.

Institutions which do not have CSQ members can also, under certain conditions, be given the status of Brundtland associated institutions (EAB-CSQ).

An EVB-CSQ is an institution where one thinks globally and act locally to promote a viable future. That is to say a place where daily acts are intended to contribute to the construction of an ecological, peaceful, cooperative and democratic world. It is an institution which sets great store from the commitment of young people and adults at the same time as giving them recognition, individually and socially. It is an institution which is open to the surrounding community and to the world and which is proud of its accomplishments, however small they might be!

Green schools in Ireland: 3.830 educational institutions (95% of all the schools in the country) take part in the "Green-Schools" program (present in 50 countries under the name "eco-schools" set up by the Foundation for European Environmental Education.

Many specific campaigns have been launched, linked to transport, electricity savings and fossil fuels, waste management, and tree planting as part of biodiversity. During the year 2014

This led to a reduction of 35,000 tons of CO₂, 5,000 tons of methane and 65 tons of carbon monoxide.

School Agenda 21 in France

The Department of the Isère (in south-east France) sponsors innovative programs to promote sustainable development and aims to make the secondary school a real place for experimentation. The approach taken is to link teaching with the more responsible running of the school itself, thereby giving power to young people to be able to act in their own institution when one often thinks that the 'problem' is at a higher level, and this gives them a real sense of belonging. The key to the success of this program is

the partnership established between technical teams in the Department and the administrative and teaching teams of the school itself. Since 2008, an average of 5 schools (collèges) per year have been helped to initiate and to run a 21 Agenda, with support given in setting up an agenda of what needs to be done, and then defining and implementing a Plan of Action. As the scheme has grown in size, it has led to the Department sponsoring big local campaigns on specific themes (composting, food waste, etc.), sometimes with groups of schools acting together. In 2015, out of the 35 schools enlisted, 8 have been helped on an individual basis, 12 have been grouped together in local campaigns, 12 have become autonomous in running their projects and only 2 have abandoned their project.

Going beyond the aim of a more responsible running of the school itself, the school 21 agendas have given secondary school children the chance of practical work in order to put into practice the theoretical side of the education: gardens, composting, beehives, wild flowers in meadows, international cooperation. This linking of the practical with the theoretical can have particularly positive results for pupils with supposedly learning difficulties who can rediscover the point of their studies through participation in their practical application. A repertoire of resources for Sustainable Development is being developed to facilitate further expansion. Of the 96 lower secondary schools (collèges) in the Department, 44 of them have their own compost sites.

The 'positive energy school' project gives the pupils the possibility of carrying out a full diagnostic analysis of the energy-use of their own school, by using a special 'starter measuring kit' and costing guide. At the end of the school year, the pupils present a diagnostic report to a panel of technicians from the Department, listing the uses and potential energy savings which they have identified. The improvements suggested are then accepted and implemented by the Department. The group of students involved in this exercise attend three training sessions run by the Local Climate Agency and are hence capable of applying professional and crossdisciplinary skills to detect and advise on important potential energy savings.

Since 2013, 10 secondary schools participate in the "Cycling to School" campaign, in which school teams are supported by the Agency for the Development of Public Transport" (ADTC) or the North-Isère Agency for Mobility; working with local governments, special cycle paths have been designated and clearly marked out and special training sessions held with pupils. Special kits are available in schools and leaflets distributed throughout the affected neighbourhoods.

<https://www.isere.fr/education/les-nouveaux-colleges/agenda-21-scolaire/>

Solidarity Cooperative: Québec

The Forest of Arden is a solidarity Cooperative which initiates and carries out projects to increase citizen's ecological awareness through an educational approach that is both creative, positive and yet pleasurable for children. Since 2010, the Forest of Arden has developed for children

of 9 to 12 years a 'Scol'ERE carbon' 'exchange bank', aimed at reducing greenhouse gas emissions. It is innovative in counting and using as special tokens 'educational carbon credits', allowing organizations and other bodies to compensate for their carbon use by buying these special tokens.

The 'exchange bank' in these carbon Scol'ERE credits has therefore two inter-related aspects: One is personal commitment, a pledge (to reduce carbon emissions) and the other one is paying compensation for their use. The pledge is targeted at children at the top of primary school (9 to 12 years) with the exchange rules provided by the bank and ready for implementation by teachers. The children become junior inspectors and carry out lots of activities, such as play-questionnaires, external surveys to carry out, oral reports to make, puzzles and quizzes, videos, all of which serve to help the pupils:

- To understand the phenomenon of climatic change and the role played by human behaviour;
- To identify the sources of greenhouse gas emissions in their local environment and how to categorize them, under themes such as consumption, energy and transfer, as well as residual matter;
- To be conscious of their own responsibility by adopting new life habits and acting as more responsible consumers;
- To contribute positively to a collective movement for reducing greenhouse gases, and inviting society to follow their example.

To put ideas into action, the pupils can volunteer for specific targets at home, for example, avoiding buying water in plastic bottles (27kg of CO₂ saved per year) and checking on all recyclable waste accepted by the municipality (39kg of CO₂ saved per year). Although only the children are making the commitment, this is an excellent way to get the family entourage taking up the same challenge.

An important aspect of the project is that all participants select their challenges on the project website, and in this way the emission of greenhouse gases avoided can be calculated, thus building up the educational carbon credits. The website also is used as a message-board, for special tips, with a blog and videos, etc.

And for the teachers, there are educational teaching tips, ideas for fun activities, since teachers need to meet targets as part of the Quebec School Training Program. Special training sessions given by the Forest of Arden are also available for teachers.

Under the 'compensatory' section of the whole project, citizens, organizations and associations outside school life can buy educational carbon credits to compensate for greenhouse gas emissions resulting from transport (normal daily travel, business trips, events, transport of good and services etc.) The Scol'ERE exchange bank therefore permits compensation to be paid to reduce carbon footprint, and it even provides a calculator service on its website: www.bourses-colere.com. The income from selling

the educational carbon credits pays for the operation of the Scol'ERE exchange scheme in schools and society in genera. One educational carbon credit is equivalent to one ton of CO₂, saved under the scheme's 'I pledge' section.

The educational Scol'ERE carbon Credits are issued in a process which is controlled by a committee of experts which is authorized by the Quebec Industrial Research Centre (CRIQ). This committee recognizes the rigour and efficacy of the Scol'ERE carbon exchange Bank. See the CRIQ final report n° 640-PE47791: "The educational carbon credits have a lasting effect and a double value: they allow greenhouse gas emissions to be compensated by the purchase of equivalent CO₂s avoided, as well as contributing to the financing of an innovative project training in educational terms, helping Quebec young people to be involved themselves in the fight against climatic change."

This Scol'ERE carbon exchange scheme has replied to a definite need for education in eco-citizenship, bringing together organizations and institutions of quite different sorts: school, municipal departments, business, social, scientific, cooperative as well as governmental institutions. In this way the Credit Bank is a positive movement for giving cohesiveness to civilian society and it has the advantage of being adaptable to different social situations. Once mobilized, young people can affect family consumption patterns and thereby have a multiplying effect on reducing emissions.

www.boursescolere.com

ANNEX 10

- Native Peoples' know-how: in Brazil
- Territorial Climate Plan: in Sénégal
- A major world region social movement: the Pacific
- Spaces for regional dialogue: France

Aboriginal people's know-how in Brazil

In the State of Amapa in the Amazonian forest, special Escolas Familias have been created to educate children of primary and secondary age and, through them, to come into close contact with the whole village community around them. This mobilization has laid emphasis on indigenous know-how in order to promote sustainable development of family agriculture, thereby prioritizing environmental balance in production processes.

The "Territorial Climate Plans " developed in several regions provide interesting frameworks for reinforcing educational policies in matters of climate change, by creating partnerships whereby educational action is integrated into general aspects of politics. In this way all branches of government are associated in drawing up Climate Action Plans.

www.educador.brasilecola.com

Territorial Climate Plan: in Senegal

The drawing up of an integrated territorial climate plan in Dakar led to a large extended dialogue and concertation of leaders in civilian society, of regional collectivities and institutional representatives in order to reach a consensual diagnosis on the regional implications of climate change and the measures to be adopted throughout the regions. Such a consensual approach has led to a greater mobilization of actors in the regions and to wider support for the measures adopted in this territorial Climate Plan.

A regional social movement: in the Pacific

It was through the strong action taken by a regional social movement in the small islands of the Pacific Ocean which, through their struggle, succeeded in stopping the nuclear tests carried out by the developed nations (Jenkins, 2005), leading to the total pollution of several atolls in the Pacific, regions where it is henceforth forbidden for local populations to cultivate the land, or even to stay for a long time.

The action of the 'Pacific Regional Environmental Program' (SPREP) aims as a development program which assures the viability of the ecosystems as well as the societies in the region, working through a wide range of projects and an important educational action concerning schools, universities, NGOs and community groups (Jenkins 2005).

www.sprep.org

Spaces for regional consultation: France

The example of the GRAINE organization in the Rhône-Alpes region of France shows how to organize a cooperative training program around projects aiming to promote a low-carbon society, by bringing together in the same space actors with complementary experiences in order to benefit from their different visions and approaches and thereby construct together joint projects.

The '9th encounters' organized by the GRAINE Rhône-Alpes which met in the spring of 2015 had as its theme: "Educating and learning together to increase the capacity for resilience of the various territories in the Rhone-Alpes region.

As the regional network for promoting EESD, the Rhone-Alpes GRAINE is open to all persons and structures interested in EESD: associations, institutions, local governments, educational institutions, leisure centres, enterprises for a social economy and solidarity, environmental professionals, teachers, counsellors and other leaders. All are part of a network which promotes vigorous exchanges and group reflection determined to develop and promote education for the environment and sustainable development throughout the Rhône-Alpes region. In 2014, more than 150 organizations and administrative structures were affiliated to GRAINE.

These Encounters have done much to give impetus to the involvement of citizens in climatic questions in the Rhone-Alpes region.

There will be no attenuation of climatic change without the participation of citizens and there will be no participation of citizens without education for all, and lifelong education for all.

<http://www.graine-rhone-alpes.org/>

SOURCES

- (1) Edgar Morin, *Enseigner à vivre*, éditions Actes Sud, 2014
- (2) Naomi Klein, *This Changes Everything: Capitalism vs. The Climate*, Penguin, Londres, 2014
- (3) Naomi Klein, *op. cit.*
- (4) Michel Puech, *Le Développement Durable: un avenir à faire soi-même*, éditions Méléète Le Pommier, 2010
- (5) Michel Puech, *op. cit.*
- (6) Edgar Morin, *Seven Complex Lessons in Education for the Future*, UNESCO, 2003
- (7) UNESCO, *Éducation pour le Développement Durable*, Décennie des Nations Unies 2005-2014
- (8) Edgar Morin, Raul Motta, Emilio-Roger Ciurana, *Éduquer pour l'ère planétaire*, éditions Balland, 2003
- (9) Michel Puech, *op. cit.*
- (10) Edgar Morin, *Seven Complex Lessons in Education for the Future*, UNESCO, 2003
- (11) Hans Jonas, *Le Principe de responsabilité*, éditions du Cerf, Paris, 1990
- (12) Survey carried out in May 2013 by doctors in the French Health Environment Association (ASEF) with more than 910 schoolchildren
- (13) Jean-Michel Lex and Jasmin Jalajel, *Les Cahiers du Développement Durable*, Région Wallonne, Belgique 2012
- (14) Pierre Rhabi, *Vers la sobriété heureuse*, éditions Actes Sud, 2010
- (15) OCDE (2012), *Coopération pour le développement 2012 - Comment intégrer durabilité et développement*, éditions OCDE
- (16) Richard Wilkinson and Kate Pickett, *The Spirit Level: Why Equality is Better for Everyone*, Penguin, London, 2010

We are at a point in history at which climate changes and the human tragedies which stem from them (refugees, droughts, floods, increased vulnerability of food production...) are intersected by a succession of other crises: the crises of our economic and democratic models, a crisis in ethics, a crisis in the viability of our international institutions and in the relations between population groups.... What is most at stake today - upon which the very future of mankind and of the Earth depends - centres on the human being, what he and she will become and what he and she will be capable of assuming as a massive project for all humanity. What education must we offer our children in order that these hitherto unthinkable realities can be resolutely faced tomorrow rather than humanity itself plunging into violence and wilfully tearing the planet to pieces?

The Paris-education 2015 Collective has brought together educationalists, organizational leaders and politicians working for the integration of education into the Paris Climate Conference 2015 (COP21) and the following.