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The Marshall Plan with Africa

An approach to the implementation of the Agenda 2030?![1]

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The Marshall Plan with Africa - An approach to the implementation of Agenda 2030?!

Summary

The text discusses the Agenda 2030, the so-called Sustainable Development Goals (SDGs) of the United Nations and their chances of implementation. The text does not agree on praising the SDGs, but rather sees them in some sense as a step backwards compared to the Millennium Development Goals (MDGs), because they make it easier for rich countries to concentrate on their own problems instead of tackling the major global sustainability challenges in international cooperation. From the author's point of view, the implementation chances for the SDGs are not high. Consideration is then given to whether a Marshall Plan with Africa would offer an opportunity to push forward the implementation of the SDGs, particularly in the case of Africa, where the greatest challenges exist. In fact, a Marshall Plan offers these opportunities, but here again the question arises whether such a plan will ever be implemented. The recently launched "Development and Climate Alliance" of the German Federal Ministry for Economic Cooperation and Development (BMZ) suggests a way in which a multi-stakeholder initiative could possibly lead to an approach of promoting a Marshall Plan with Africa and other related international developments and thus making a substantial contribution to the implementation of the SDGs. The text discusses the topics mentioned and related questions.

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1. Introduction

The chances for a future harmonious development are not good. Conflicts between states are increasing. Tendencies towards re-nationalisation and an increase in conflicts within states can be observed. Actual development does not seem to be moving towards the direction of sustainable development, but rather towards other directions, which are addressed in the literature under terms such as "Brazilianization/worldwide two-tier society" or "ecological collapse". In fact, the world community adopted the so-called Sustainable Development Goals (SDGs), also called Agenda 2030, in 2015. The present text, however, looks at this highly praised programme with “mixed feelings”, i.e. rather critically. Although many individual topics are discussed adequately, there is no credible perspective for their implementation. In particular by their focus on states, the SDGs make it easier for rich countries to largely evade the major global sustainability requirements. Instead of enabling poorer countries to catch up while at the same time protecting the environment and climate worldwide, rich countries are rather concentrating on the implementation of sustainability goals in their own countries. This is counterproductive in its overall effect. Above all, because the SDGs, alike the previous international programme of the Millennium Development Goals (MDGs of 2000-2015) and the Climate Agreement of Paris, are again characterised by an overweight of hopes with only a very small implementation capacity. This applies specially to financing issues, which, as in many cases, are a major problem (Radermacher F. J., 2015).

The 2015 Addis Ababa Conference on Financing Development (especially SDGs and Climate Change Targets) entitled "From Billions to Trillions" (World Bank and IMF, 2015) highlights the financial challenges the global community is facing. In economic terms, the greatest difficulties are based on the fact that on the one hand prosperity is urgently needed to stop the growth of the world population at some point, e.g. in India and even more so in Africa. If this does not succeed, climate change can no longer be stopped at 2°C (Radermacher F. J., 2018b; Senate of the Economy, Radermacher F. J., 2017). Furthermore, the migration issues will then develop even more dramatically in the course of time than it is already the case today. On the other hand, prosperity is still unavoidably associated with high resource consumption and greenhouse gas emissions. This means the following: Either states are rich, then they consume a lot of resources and generate high per capita greenhouse gas emissions. Or, they get by with low

resource consumption, in which case they are poor states (Club of Rome, Senate of the Economy, 2016).

The future solution for billions of people that the sustainability discourse is striving for – high prosperity with low resource consumption – has not been realized anywhere in the world. To which extent the revolution in IT and artificial intelligence will improve or worsen the situation is unclear at this point (Land K-H, 2018). Brazilianization is an alternative option. It solves the problems by "impoverishment" of the global middle class. However, this solution is completely unsatisfactory and would lead to politically significant conflicts that may not be solvable (Radermacher F. J., Beyers B., 2011).

In this context, the African continent is of particular importance, since there is still a massive population explosion. The number of people in Africa has increased six-fold in the last century to currently between 1 and 1.2 billion. The number will probably double by 2050, possibly quadruple by 2100. It is hard to imagine that so many people can find an adequate future in Africa, especially if the effects of climate change in the hot parts of Africa become noticeable more and more (HDRO at the UNDP, 2018). Finally, there is a threat of massive migration to the North in this case, among many other problems. In Europe, we have experienced this happening in a still moderate way in recent years. It has become clear in those times that even comparatively small flows of migrants can blow up the political systems of the rich world and thus undermine our future. Our democratic systems hardly seem stable enough to cope with growing demands of this kind. Suddenly, politicians and citizens became aware of what may be ahead of us. On the side of political decision-makers, this at least creates a willingness to take a more serious look at Africa's future and a Marshall Plan with Africa, which has now strongly been communicated (Club of Rome, Senate of the Economy, 2016).

2. The Sustainable Development Goals

At the end of 2015, the international community adopted the 2016-2030 sustainability targets in New York. These consist of 17 goals (Sustainable Development Goals), differentiated into 169 sub goals. A detailed description can be found in United Nations, 2015. The SDGs follow the Millennium Development Goals (MDGs) of the period 2000-2015. Despite various advances, these were not achieved, a typical picture (FAW/n, 2016a; Radermacher F. J., Beyers B., 2011; Radermacher F. J., 2015). In terms of overcoming hunger and poverty, China's wealth creation has been the greatest contribution to achieving the MDGs.

When viewing the core of the sustainability issue as a combination of development in poorer countries, combined with advanced and global environmental and climate protection, key goals were not achieved (Töpfer K., 2001). The main reason for this is the completely insufficient willingness of rich countries to ting themselves to contribute adequately. Perhaps this is the reason why all countries have agreed to a new logic with the SDGs. According to the new interpretation of global problems, all states have their own sustainability deficits. Every single one of them has to work on overcoming them. Of course, they also need to work together on global issues. In fact, however, politics and large sections of the civil society in rich countries have steered the local discourse to their favour (Radermacher F. J., 2018a): concentration on deficits at home, especially in the rich countries – often garnished with "role-model" arguments. Thus, no additional help in Africa to overcome poverty or to bring about changes regarding reproduction. Instead, energy revolution in Germany, introduction of electric cars, discussion of the nitrate exposure on the fields, discussion of exceeding amounts of liquid manure in some federal states and the lower remuneration of women in their jobs compared to men, insufficient support for children from poorer families, etc. Or, to put in other words: no longer Fair Trade, but organic food from regional cultivation. It is obvious that the global problems cannot be solved this way, but it is systemically pushed aside by the role-model argument (cf. Chapter IV). It is gratifying in this context that the German Council for Sustainable Development is now arguing against this trend (RNE, 2018).

What are the biggest problems of the Agenda 2030? With the Sustainable Development Goals (SDGs), for the first time in their history, the countries of the world have a common agenda for achieving sustainable development since September 2015. For the time being, this agenda represents the final step in a political endeavour that has, by now, lasted for more than 40

years and aims at achieving two of humankind's major goals at the same time: "preserving the natural basis for life" and "economic development for all human beings". What the Agenda does not achieve is financing the necessary catch-up development progress in the poorer countries and correspondingly the necessary environmental and climate measures. Additionally, the globally established trade and financial structures promote the interests of the rich countries and certain elites of the poorer countries in many aspects rather than the interests of the vast majority of the world's people (Müller G., 2017; Radermacher F. J., Beyers B., 2011).

How can a focus on national issues be achieved on a topic such as sustainability? A suitable framing must be implemented here. Within this framework, the concept of sustainability takes on a life of its own. An international issue becomes a national one. People suddenly talk about a sustainable Germany, a sustainable Baden-Württemberg, sustainable consumption, sustainable tourism, etc. – conceptually actually nonsense. But this way responsibility can be individualized and certain actors become directly addressable, e. g. airlines, the automotive industry or electricity production based on coal.

All this does not lead us closer to the goal, because sustainability in the sense of the Brundtland definition must be understood as a state of the system, as an aspired state of the world. Sustainability therefore cannot be individualised, neither at the level of individuals, nor at the level of individual countries, unless individualisation is part of a coordinated global plan that allocates the necessary contributions to subsystems and is able to enforce compliance with the requirements by every actor involved. This also means the following: Individual contributions are important, necessary elements for a direction towards sustainability, but not sufficient. Ultimately, sustainability is an overall system state of humanity. In a globalised, networked world, the globe is the overall system to be considered. At this level, environmental, climate, poverty and justice issues must be resolved.

Unfortunately, another strong tendency can currently be observed in many places: the attempt to assign responsibility for achieving sustainability to individual actors in the form of an "accounting demarcation" or "allocation of responsibility", which admittedly simplifies the operationalisation of the topic ostensibly and facilitates the identification of "guilty parties", but is not adequate to the matter. In other words, the world operates within a false frame, a false interpretation of the problem at hand. Within this frame the problems cannot be solved. This applies to development as well as to environment and climate.

Why do actors act this way? Perhaps out of (a) a lack of understanding, or (b) because the problem becomes more manageable, albeit without a chance for success of a solution, or (c) because actors are pursuing their own interests. In today's view, the individual states, countries, municipalities, companies and individuals are then called upon to ensure sustainability. One can try to put pressure on them individually, specifically and publicly – a popular field of activity for non-governmental organisations and parts of politics. States then develop their strategies to implement the Agenda 2030 at a national level. Regional climate protection targets are formulated which usually break down international targets into aims for individual sectors of the economy and individual countries and regions. Some individuals practice sufficiency and to a considerable extend withdraw from the world of consumption. Many dedicated students start with themselves and their personal lifestyle. But all this will not lead to the goal. It is reminiscent to a person that looks for his glasses at night in the light of a streetlamp and then answers the question of whether he has lost his glasses at this point: "No, I lost it somewhere over there, but at least I see something here".

Individualization, as it is common today, is lacking a systemic approach. For example, the way of dealing with the fact that the poor understandably have a hope or even expectation for more prosperity, that the greatest challenges lie in fulfilling these demands, that many people in the rich countries also want to consume more and not less. Also, there are legally protected freedoms at national and international level to be allowed to pursue these ideas. If someone saves something here, there probably is someone else who consumes even more. If money is not spent in one place, it is later spent in another place, often by another actor, e.g. a borrower of a bank, where money that is not converted into consumption is saved. Individual approaches therefore do not solve the problem. A global agreement must be reached. Ultimately, all companies, regions and people must break the sustainability requirements down into their context, even though today's system does not support such a path in a positive way. The wrong option is often cheap today, the better option is often more expensive. Today, wrong incentives are the trigger for wrong behaviour of many people. Therefore, only a systemic approach offers a realistic chance for sustainability (FAW/n, 2016a, 2016b).

The conclusion is the following: One cannot pretend in the argument – as it is often done – that all people, all states or all regions of the world are entitled to the same environmental space per capita, for example by formulating that from 2050 onwards, we will all be allowed

to emit only 1 tonne of CO_2 per capita per year. One tonne per capita is at most an average value with high variation around the mean values between states and high variation of the individual values within states, whereby persons with high emissions should pay accordingly for their higher emissions (internalisation). If exactly the same emissions per capita were enforced through political measures, this would completely counteract the present the situation of our social order or economic model with regard to the different resources of states or the fundamental differentiation in income, wealth, economic success etc. Such an approach would ultimately produce "communism through the back door". Moreover, as such a path would throttle the absolutely necessary engine of innovation, it would not in itself be promising, not to mention the fact that it would not be capable of winning a majority – especially not internationally. It conflicts with existing international treaties which, moreover, cannot be changed or terminated unilaterally, e. g. at the WTO level.

By the way, there are interesting references here to the two 2018 Nobel Economic Prizes for Paul Romer and William Nordhaus. Based on the Solow Growth Model, William Nordhaus discussed the necessity of internalizing climate effects into the economic system so that prices tell the truth and supposed value creation at the expense of others or at the expense of nature (externalization) is largely prevented. Paul Romer on the other hand discussed the role of innovation in increasing the prosperity of potentially all people and how politics and business can increase the likelihood that useful innovations will be produced and enforced.

Central questions today are how to prevent externalisation on the one hand, and how to produce innovations (e. g. a new energy system) on the other, which even without externalisation can massively increase today's prosperity in order to bring billions of more people towards prosperity. Unfortunately, all this is extremely difficult. Earth Overshoot Day[3] has an earlier date year by year. CO_2 emissions, for example, would have to become significantly more expensive. However, no global agreement on the price has been reached. And since the atmosphere doesn't care where the CO_2 is produced, there is a "prisoner's dilemma" that is closely linked to the so-called "tragedy of the commons". That is why we do not get any further at this point so far (Radermacher F. J., 2016).

[3] Earth Overshoot Day is the date when the consumption of natural resources exceeds the earth's capacity to reproduce those resources (cf. Global Footprint Network). Note that CO_2-emissions play an important, somehow misleading role in the definition. If these were not considered, the ecological footprint of humankind would be below one earth.

In this context, sustainability cannot be achieved without massive cross-financing. For systemic reasons – within clear rules agreed upon – a lot of money has to flow from the rich to the poor countries if the latter should relinquish on what is perhaps their most important competitive advantage: undermining the standards of the rich world, especially in the area of sustainability. The approach is reminiscent of a mechanism such as the federal states' fiscal equalisation (Länderfinanzausgleich) in Germany or the partial climate fiscal equalisation agreed upon in the climate sector (Müller G., 2017). In this context, 100 billion transfers per year from industrialised countries to developing and emerging countries are in debate from 2020 onwards. It should also be recalled on the (successful) Montreal Protocol for the Protection of the World's Ozone Layer, which is based on a similar logic (UNEP, 2009, 2018; Frey A., 2008).

Overall, sustainability and the implementation of the SDGs are not possible without significantly increased cross-financing (FAW/n, 2016a). This means, it will basically not be possible to find an approach for circumventing this absolute necessity, not even by more pressure from NGOs and politicians on companies in the area of human rights, as it is currently attempted in the national action plans for human rights in the context of UN and EU activities (DIMR, 2016; Weller M.-P. et al., 2016). An ultimate question is always whether it is better for children in poor countries to work under slave-like conditions or to starve alternatively. With these options, parents prefer to send them into slave-like employment. Attending school would of course be the much better alternative, but then the rich countries would have to co-finance it.

Therefore, the principle of "standards against cross-financing" should be applied at the international level. Compliance with agreed standards depending on the development level, should be the prerequisite for significantly increased financial flows to developing and emerging countries (cf. Chapter V). Otherwise the current situation will remain, with serious consequences for people and the environment in many countries and for the benefit of local elites. Those elites in part promote the state of affairs, situation because they claim a standard of living like the elites in the West and are under status quo conditions in a position to obtain the necessary funds for their lifestyle, even at the expense of their own population.

The amount of money required is clearly shown in the formulation "From Billions to Trillions", which was coined by the World Bank and the International Monetary Fund (World Bank, 2015)

and which is central if the problematic situation shall be correctly assessed. Ultimately, it will be a matter of (1) massively increasing public funds for development cooperation (ODA) and (2) using them wisely, mobilising further private funds with their help and positively promoting private investment in developing countries. The OECD (OECD, 2016) talks about an investment amount of 3.3-4.5 trillion US dollars needed annually to implement the SDGs (OECD, 2016). Such amounts can only be raised, on the one hand, if there is a significant increase in funds for international development cooperation/ODA funds (similar to the Marshall Plan after World War II) and, on the other hand, if much higher private funds are activated.

In the analyses FAW/n (2016a) as well as in Club of Rome and Senate of the Economy (2016), it becomes clear through historical comparisons what volumes are at stake if breakthroughs to prosperity everywhere in the world are the objective. Indications of this are given by the Marshall Plan after World War II, the Structural Funds of the EU, or current refugee costs in Germany on-site and management of the global financial crisis in 2008/2009. All of this this by far ranges beyond current funds available for development cooperation (ODA-funds), although in a continent like Africa the initial situation is much worse than it was in the above-mentioned historical examples and the number of people affected is much greater (Club of Rome, Senate of the Economy, 2016).

To date, it has not even been possible to provide the 0.7 % of donor countries' GNI (gross national income) promised for decades as ODA funds. Currently, about 150 billion US dollars are raised per year, which is about half of the target figure. With regard to the SDGs, the financial ambition gap amounts to 800 - 1,500 billion euros per year. As already mentioned, the OECD estimates the investment required to implement the SDGs at 3,300 - 4,500 billion US dollars per year (OECD, 2016). Here, the private sector must be decisively activated (cf. again Chapter V).

Higher transfers combined with better standards according to the logic that prices must tell the truth are aimed at green and inclusive growth as the key to implementing sustainability. After the financial crisis, there is consensus among all international organisations that markets must be adequately regulated in social and environmental terms (so-called green and inclusive markets) if the goal is a good future for all (Radermacher F. J., Beyers B., 2011). Market fundamentalists have a different view on this, but they have now lost their dominance in the political debate, albeit not in the practical reality of life, as far as international trade policy is

concerned. There, however, President Trump's policy of "America first" – as problematic as it is – is now changing the situation and, for example, in the new version of the NAFTA Treaty, the partners have imposed relatively high minimum wages for Mexican workers in certain sectors.

In the wake of the global financial crisis, a lot has happened as well. For example, the OECD is fighting against "tax base erosion" and strategies such as re-declarations of business activities and legal conditions by companies and organisations, and thus wants to contribute to a greener and more socially oriented policy. This also applies to the OECD's and the IMF's regular comments on the importance of a sufficient level of social balance for social prosperity within countries. Of course, green and inclusive markets also aim at growth, but only to the extent that the environment and the climate system are protected and prosperity flows to all people. Economic growth is a 'must' if sustainability is the objective. Of particular interest in this context is SDG 8, which allows the poorest developing and emerging countries to achieve GDP growth of at least 7% per year in order to move towards sustainability.

At first, it sounds paradoxical that sustainability in the social and ecological dimensions can only be achieved by massive economic growth: The historical insight to date is that growth and resource consumption are highly correlated variables. The Club of Rome translates this into its demand for "total decoupling".

Nevertheless, sustainability and especially economic development will not be achievable without massive economic growth and a strictly sustainability-oriented policy, also from the author's point of view. This is probably also the only realistic chance to achieve a stabilisation of the world population at the level of 10 billion people by the year 2050. If poverty is not overcome, the world population is looming to grow up to 12 billion by the year 2100.

For the rapidly growing world population – especially in view of the billions of comparatively poor or very poor people – more and more goods and services will be needed if these large and ever larger populations are supposed to live even just in modest prosperity. As an important new book by Chandran Nair (Nair C., 2018), a member of the Executive Committee of the Club of Rome, shows, this can indeed only be modest prosperity, not the standard of living of today's rich world, and requires a strong state to implement such a programme. The strong

state is meant to act in the interest of the vast majority of its people and sets clear limits for international corporations as well. China's work on behalf of its people is being acknowledged.

3. Why is it so difficult to implement the SDGs?

The SDGs mainly describe completely legitimate goals for living standards and quality of life for all people, especially for people in developing and emerging countries. A per capita analysis of this already requires considerable material growth, which is expressed in SDG 8 as a "claim" in the quantification of at least 7 % GDP growth. At the same time, the world population continues to grow very rapidly, from 6 to 7.5 billion since 2000 and with, a practically inevitable leap to 10 billion by 2050 in sight, with very large increases to be expected on the Indian subcontinent and in Africa. In Africa, the population will double from 1.2 billion today to 2.4 billion by 2050. By the end of the century, there could be over 4 billion people living in Africa. More prosperity is the best way to prevent growth beyond 2.4 billion. However, using present technology this will require a considerable additional consumption of resources as well as massively increased greenhouse gas emissions. This means that problems with environmental SDGs are practically unavoidable. Resulting from all of this, there is a great deal of scepticism about the feasibility of the SDGs, as expressed in (FAW/n, 2016a). Doubts and questions are also formulated by the Club of Rome in the context of publications on the 50th anniversary of the Club in 2018 (Randers J. et al., 2018; Weizsäcker E. U., Wijkman A., 2017).

The problems in the area of climate are becoming particularly obvious. Especially here, the challenges are high. Reference is made to the current report of the Intergovernmental Panel on Climate Change (IPCC, 2018) and the Climate Emergency Report of the Club of Rome (Dixson-Declève S. et al., 2018), both from 2018. In the author's current book on energy and climate issues (Radermacher F. J., 2018b) as well as in Helm D. (2017), it becomes clear that the climate issue in today's world should not be seen primarily as an environmental issue. It is rather at least as much about economic, financial, social and cultural issues, about power and wealth, about economic performance, energy and financial strength, about jobs and social issues, about questions of food and water supply, about migrations of peoples. Finally, it is also about the position of states and entire regions in the world in relation to one another, possibly also about a question of war and peace. Geopolitics (Marshall T., 2015) is a central factor, for example in the US, which have meanwhile risen to become the world's largest producer of oil, but also in the corresponding activities on the Russian and Chinese sides.

As a consequence of the paradigm changes in the global climate negotiations at the conference in Copenhagen in 2009, in the author's work it was deduced already at that time that

there will be no stringent global climate agreement to achieve the two-degree target (Radermacher F. J., 2014). For an adequate negotiation outcome, a gap of about 500 billion tons of CO_2 by 2050 from Copenhagen onwards was expected under the new voluntary regime. It actually turned out that way: the Paris gap. It is described in Figure 1 below.

To bridge the gap, an estimated amount of 500 billion euros per year in lost grants are needed (see Chapter V). Therefore, it is essential to put massive financial flows from north to south in motion in order to make further growth processes in developing and emerging countries as climate-neutral as possible. In comparison to that, it has little sense to spend a lot of money in Europe on comparatively small climate effects. On the contrary, the money available must be used to achieve major effects, especially in India and Africa. Negative emissions (e. g. afforestation and humus formation combined with a consequent protection of rain forests) have to be used to massively remove CO_2 from the atmosphere. With synthetic fuels, e. g. methanol-based on green hydrogen, produced with solar power from the Sahara (DESERTEC 2.0), an alternative to the very expensive energetic renovation of houses and a full switch to electromobility has been found, also for us Europeans (Offermanns H. et al., 2017; IPCC, 2018, Radermacher F. J., 2019).

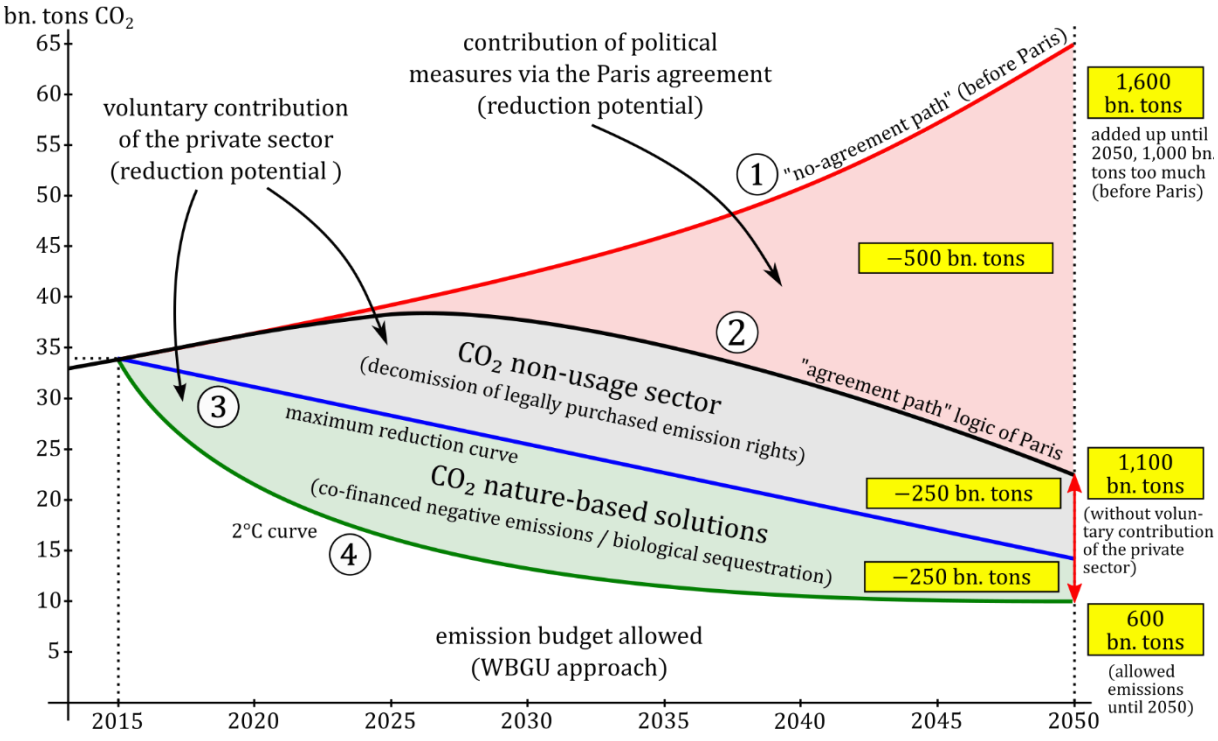

Figure 1. Reduction paths in the logic of the Paris Agreement - planned/required contributions of the state sector and non-state actors)

Figure 2 below shows what happens if the path described does not succeed.

The main problem is the additional CO_2 emissions on the Indian subcontinent and in Africa until 2040, in case they move from about 1 or 2 tons of CO_2 per capita for about three billion people to 3.5 tons of CO_2 per capita for about 4.2 billion people. The increase is around 10 billion tonnes, almost as high as today's Chinese emissions, which are already higher than the combined emissions of the USA, Europe and Japan. With around 9 tons of CO_2 emissions per capita and year, China has already overtaken Europe with 8.5 tons of CO_2 emissions per capita and year. And Chinese emissions continue to grow. China positions itself as one of the developing countries in the climate negotiations and attaches great importance on being allowed to increase its CO_2 emissions until 2030. So, reductions in China will tend to be (only) relative in comparison to the GDP but will be increasing in absolute terms. In 2017 China used 100 times as much concrete as Germany in 2017, and from 2011-2013 China used more concrete than the USA during the whole last century. China's path to prosperity cannot be replicated in a climate-friendly way, neither on the Indian subcontinent nor in Africa (Radermacher F. J., 2018b), except, we succeed in building a new global energy system – which has a chance, based on the so-called methanol-economy appeal (Radermacher F. J., 2019).

It is also clear that China has made the greatest contributions to the MDGs. China has brought hundreds of millions of people out of poverty. As described above, it is just as difficult for billions of people to overcome poverty without massively burdening the environment and the climate. Additionally, the social effects are also enormous when hundreds of millions of people in China are integrated into a world economy based on the division of labour, in order to work their way towards greater prosperity at initially very low wages. The so-called Elephant Curve of Global Inequality and Growth, 1980-2016 (Alvaredo F. et al., 2017) shows this very clearly (Fig. 3).

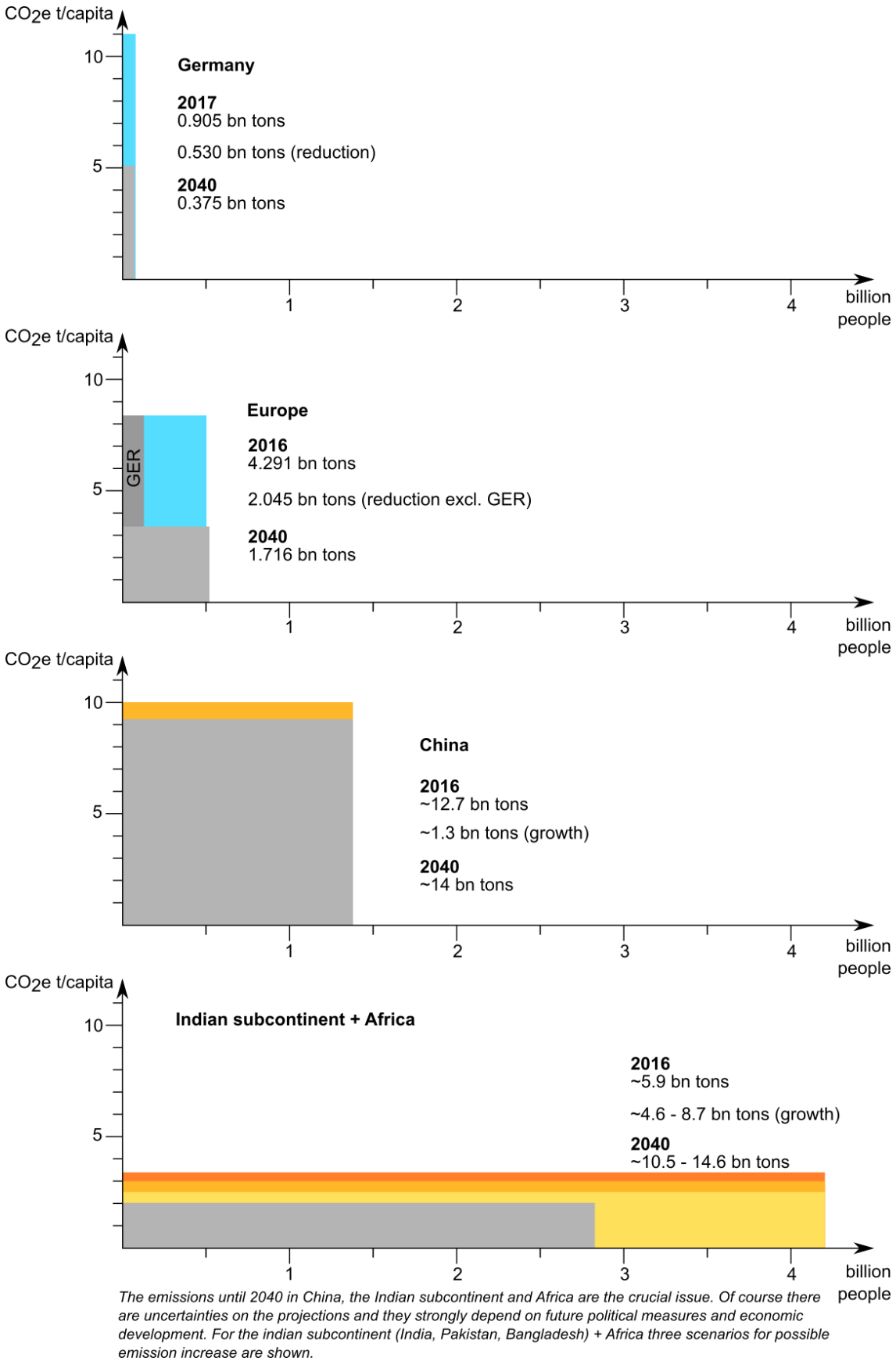

Figure 2. Current (2016) and expected (2040) per capita CO2e emissions, population trends and possi-ble savings (blue) respectively expected growth of CO2 emissions (yellow/orange)

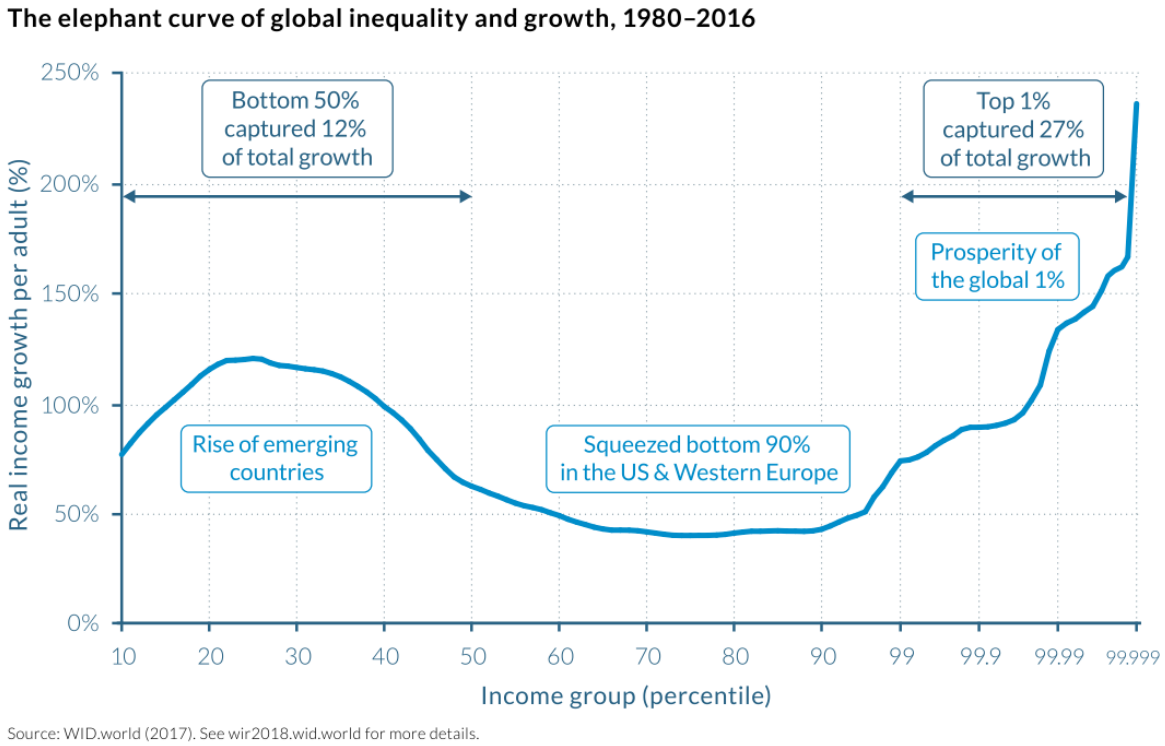

Figure 3. Global percentage growth of total income 1980-2016.

In the "Elephant Curve", changes in income are shown according to the level of income. Stagnation becomes visible in a large segment of poverty, massive growth in prosperity towards the middle class with hundreds of millions of people from poor countries (especially China's workers), stagnation or even regression in the segment of the lower middle class in the rich world (e. g. industrial workers in old industries in the USA) and massive gains for elites everywhere, especially in the rich world. To exaggerate, the industrial worker is losing in the USA, in return industrial workers in China, Vietnam and India are gaining. The rich elite is gaining always and everywhere and more and more (Piketty T., 2014), the "sediment" remains where it is.

Such brutal redistribution processes, never negotiated and not internationally linked to compensation payments, are incompatible with sustainability. US politics under President Trump, Brexit, re-nationalisation and populism in Europe are sending their greetings. Reasonable policy will be difficult. Egoisms are becoming stronger, as affected citizens are persuaded that if they retreat to national solutions everything will be better, everything will return to the (better) way it was before. Of course, this is only an illusion, but an illusion with great political effects. In a nutshell: In any case, the road to sustainability will be difficult.

A final note on the subject: A new report to the Club of Rome was published on the occasion of the Club of Rome's 50th anniversary ceremonial act in October 2018 (Randers J. et al., 2018). It asks about the implementation chances for the SDGs and the first conclusion is that the goal of implementing the SDGs in 2030 cannot be achieved. The discussion then focusses on achieving the target by 2050.

The authors first examine the three strategies "Same" (continue as before), "Faster" (take care of more growth with high dynamics) and "Harder" (make more efforts without higher pay) and come to the conclusion that these would not help – even with the implementation period considered up to 2050. They use a comparatively simple system Dynamics Model to underpin the given and in the authors point of view correct position. They then develop a fourth approach, which they call "Smarter". The logic behind this approach also appears, partially, in the current report of the Club of Rome on Climate Emergency (Dixson-Declève S. et al., 2018). They argue, that with this intelligent approach they have found a robust way to reach the SDGs by 2050 while respecting 9 planetary boundaries. Five elements of a robust path are given in their text. However, from the author's point of view the statements made raise questions, because the five proposed elements are added exogenously to their model, so they are not deeply incorporated into the model. They are therefore rather meaningful ideas, hopes and assertions ("wishful thinking"), not hard facts. Exemplarily, three points are mentioned in the following.

1) Energy: accelerated growth of renewable energies

The authors propose doubling the share of renewable energies every 10 years. However, this is completely unrealistic. The International Energy Agency (IEA), an OECD organisation, takes a completely different position (IEA, 2017, 2018), cf. also Radermacher F. J. (2018b). In 2040, fossil fuel consumption will be higher than it is today. The high quantities of fossil fuels in 2040 are, among other things, due to the geostrategic policy of the USA, which is today the world's largest oil producer. Shale gas and shale oil have completely changed the "game" in the energy sector. There is no longer any talk about "peak oil", which was a very important topic 15 years ago. At the other end of the carbon issue operates Russia, which has built an army for the Arctic, because Russia sees the Arctic as its strategic energy base for the future. India and China are expanding their use of coal. India argues that it has every right to a much higher share of global emissions. India's

electricity sector is thereby heavily underfinanced. The companies active in India often either belong to the state or are kept alive by state loans. The disappearance of these companies from the market would represent a massive financial risk for the Indian state.

2) Social balance

On the subject of social balance, the authors demand that the income share of the 10% highest incomes will be substantially limited. The call for a clever limitation of the income shares of high-income groups (whose income often results from yields on very high property titles) is now supported by the OECD, IMF and WB. In Radermacher F. J. and Herlyn E. (2018) it can be seen that 40 % of total income should be the upper limit for the share of the 20 % highest incomes. This essentially corresponds to values of the Gini index between 0.25 and 0.35. Less strict figures are discussed in (Randers J. et al., 2018). Furthermore, the text does not explain how upper limits for income shares of the best earning groups could be politically enforced.

3) Population growth

The authors hope that the world population can be limited to 9 billion people. They argue for more investment in education, gender equality, health and family planning. These all are important aspects. But none of these are new. The world has been talking about such measures for decades, but the growth of the world's population continues at a rapid pace. There is no indication or evidence on how to stop the population explosion. From the author's point of view, there is a high probability for 12 billion people at the end of this century. The financial resources needed to change the current path are not available up to now. The reservations against family planning are high. The UN position is tough and completely avoids the question of family planning. At best, international politics talks about "reproductive health" or "mother and child health".

Interim conclusion: The simultaneous implementation of the social and ecological concerns of the SDGs while maintaining high population growth is obviously becoming extremely difficult. Achievement of the targets by 2030 is probably impossible. Perhaps, success by 2050 is possible. But even that requires completely different and new approaches. The economic growth of developing and emerging countries must be largely climate-neutral. Negative emissions have to play a major role. Huge financial volumes need to be moved from north to south in

this context, partly in the form of lost subsidies. This requires new actors and should use synergies to massively reduce the costs of achieving climate targets, e. g. in Europe, in order to make significantly higher transfers politically feasible. The Marshall Plan for Africa and the Development and Climate Alliance of the German Federal Ministry for Economic Cooperation and Development (BMZ) describe ways in which this can perhaps be achieved.

4. A Marshall Plan with Africa

The comments so far should have made clear the order of magnitude of the challenges on the way to sustainable development and how difficult it will be to implement the SDGs, even if the implementation period is extended until 2050. A much greater commitment of the rich countries to cooperation with developing and emerging countries is essential. Via trade, finance and clever double taxation treaties, the rich world has been exploiting Africa instead of investing there in a large scale (Hearson M., 2018). That has to change. This is where the Marshall Plan with Africa comes into play.

The Marshall Plan with Africa is, on the one hand, the result of an analysis presented by the Senate of the Economy, the Club of Rome and the FAW/n (Club of Rome, Senate of the Economy, 2016), and, on the other hand, an associated, largely independent policy line of the German Federal Ministry for Economic Cooperation and Development (BMZ) (BMZ, 2017). The Marshall Plan with Africa reacts to the situation described above and concentrates on Africa, which has by far the most dynamic population development, is characterised by particularly difficult conditions and is of special importance for Europe – both, as an opportunity and as a risk.

The objective of the Marshall Plan is a "prosperity explosion" in Africa, especially in North Africa. This prosperity explosion should be designed to be compatible with all sustainability requirements, i.e. it should be green and inclusive, and thus provide evidence that the market-based prosperity model can "deliver", also with regard to the Agenda 2030. The report aims at a cooperative approach, puts cooperation with Africa in the forefront and refers to a long-term vision of the African Union until 2063 (African Union Commission, 2015).

Africa cannot offer such a convincing homogeneous environment for economic development as China does. After all, it is not a state with a population of billions, it consists of 55 states. Fortunately, Africa also has one or two jokers that can be brought in. In particular, Africa has a lot of space on the one hand, a wonderful nature, a lot of mineral resources and on the other hand a gigantic potential for renewable energies in the Sahara and other deserts as a basis to develop massively. This should be used.

According to the Addis Ababa formula of 2016 "From Billions to Trillions" (World Bank, IMF, 2015), the funds invested must be significantly increased. Ultimately, only the private sector

can "lift" the large necessary investments. In particular, the public sector in Africa must substantially increase its tax revenues in order to be able to do what is necessary on their side. But also, much more has to happen in international development cooperation. The funds must be used wisely with partner states with whom agreements on joint programmes is possible. For example, progress in the area of governance should be acknowledged, especially the willingness to implement country-by-country reporting of tax payments of internationally operating corporations in order to ensure transparency on tax revenues: These in turn would result in higher state revenues on their side, which in turn would massively increase the capacity of African states to improve the situation of their populations. In return, investments are to be made especially in the development of social systems.

On the other hand, substantial investments are needed in industry and infrastructure as well as in agriculture. Here, the millions of new jobs have to be created which are absolutely essential if the SDGs are supposed to be implemented in Africa. The former German Federal President Horst Köhler talks about 20 million new jobs per year that are absolutely necessary in Africa for the next 30 years (Köhler H., 2016). Highly important for that is the environmental and climate compatibility. Timber must play a central role in the future. Reforestation has to contribute significantly, also for removing CO_2 from the atmosphere. A strict protection of rain forests is a must, even if it will cost the rich countries a lot of money. In cooperation with the FAW/n in Ulm and other partners, the author is involved in the setting-up of so-called "lighthouse" projects for Africa, which are described in more detail below. They currently focus on four areas:

(1) Humus formation-enhancing agriculture, also on semi-arid areas using biochar on hundreds of millions hectares of soil.
(2) Reforestation on degraded soils in the tropics, potentially on several hundred million hectares in Africa.

    (Note: Humus formation and afforestation massively bind CO_2 (on average about 10 tons per hectare and year), so-called negative emissions. Both approaches at the same time allow a high added value in the country and create many jobs.)
(3) Another topic is green synthetic fuels based on green hydrogen and green methanol, using solar energy, which is almost unlimitedly available in Africa, especially in the Sahara and the Arabian desert.

(4) "Lighthouse" projects on population issues such as reducing maternal and infant mortality, information and prevention initiatives, empowering women, quality education for girls.

Within the framework of the Marshall Plan with Africa, the Club of Rome and the Senate of the Economy recommend the German Federal Government and Europe to take a strong initiative against the widespread mood of hopelessness facing global challenges and to pursue the following goals:

- ✓ Europe's cohesion and securing its future
- ✓ Successful implementation of the Agenda 2030, especially in Africa – where, on a global perspective, the problems are the biggest.
- ✓ Solving the population issue in Africa and showing a way towards prosperity for the continent
- ✓ Contributions to the refugee question worldwide and particularly in Europe
- ✓ Prove that a green and inclusive economy can "deliver" in the sense of at least enhancing the implementation of Agenda 2030 by 2050.
- ✓ Prevention of coercive management and resource planned economy
- ✓ Simultaneous implementation of sustainability, climate protection, social balance and greater material prosperity for all
- ✓ Creation of more social balance instead of radicalisation, nationalism and dismantling of democracy
- ✓ Providing value-creating investment opportunities for capital
- ✓ Promotion of real-economic innovations and investments
- ✓ Initiation of green and inclusive growth

5. A Marshall Plan as an instrument to implement the SDGs?

The proposal for a Marshall Plan strives for completely new dimensions of cooperation between the developed countries and the less developed countries, exemplified by Europe and Africa. The final argument is that under the existing political conditions, a path towards prosperity is most likely opening the greatest opportunities to prevent an explosion of the population in Africa. Regarding climate change, this in turn is a crucial prerequisite for preventing Europe and the rich world from being completely "suffocated" by the issue of migration at some point. However, it is also clear that, in the current economic model, significantly more prosperity for Africa and exemplarily also for India, means that we can get completely out of control in terms of resource use, climate problems and so on. As described above, new solutions are needed here.

Why is the situation that difficult? This is illustrated by the example of China. As mentioned above, China has made the greatest contributions to overcoming poverty in the world in terms of the MDGs between 2000 and 2015. But China has also exorbitantly increased its resource consumption and CO_2 emissions. China currently has higher per capita emissions than Europe and in total higher CO_2 emissions than the US, Europe and Japan combined. This development model cannot be replicated in the other parts of the world based on today's technology if a climate catastrophe is to be prevented (cf. Fig. 1). In this respect, the world needs other solutions, e.g. for the further development of India and Africa. The Marshall Plan with Africa uses the example of the poorest continent to show how such solutions may look like. In essence, we must succeed in implementing the necessary wealth creation in such a way that nature conservation is promoted, and CO_2 is removed from the atmosphere instead of releasing more of it into the air. Therefore, required are massive value-added opportunities that have a positive effect on climate. Among the many options that are pursued in the Marshall Plan at the value creation level, the following four topics, already briefly discussed above, are of particular importance:

a) Agriculture in semi-arid regions

A "lighthouse project" is currently being considered in the semi-desert in northern Africa on an area of at least 30,000 ha. The main focus is on reversing desertification that has taken place over the last few decades, which has resulted in the loss of around 8 million hectares of land in Africa every year. An important dimension of the project is a strong

focus on humus formation and the use of bio-char. In this way, at least 10 tons of CO_2 per hectare and year can be extracted from the atmosphere. The aim is also to achieve a sufficient workplace per 2 ha, a qualification of the respective employees in modern equipment, also on the IT side, and an increase in agricultural productivity in contrast to other parts of the continent by at least a factor of 5. In addition, there should be gardens for all employees to be used for themselves. The (abundant) groundwater resources available on site in this case should be used wisely. Desalination is carried out using renewable energy and could be based on experience in Israel (Sigel S., 2017). The project should offer investors good opportunities for returns. The BMZ should help with practical intergovernmental problems. In addition, a research centre on the subject would be helpful in preparation for upscaling at a later date.

(b) Afforestation of degraded soils in the tropics

Reforestation – combined with strict protection of rainforests – is one of our best chances for achieving the climate goal of the Paris agreement (Finkbeiner F., 2011; Finkbeiner F., Plant-for-the-Planet, 2019). A lighthouse project on the subject is planned in West Africa. It shall be carried out in cooperation with experienced developers on site. An ongoing, already successful project will be extended to include the conservation of natural rainforest. There is a strong focus on agroforestry technologies, meat production with smaller animal species, establishment of a cooling chain for food, cooperation with the tourism industry in the country, training, promotion of biodiversity and water balance, among others with rainwater collection basins. Some renewable energies are already integrated today and are to be expanded. Additionally, there is a strong focus on CO_2 capture (after some years). For this purpose, among other means, charcoal should be inserted into the earth.

Another important dimension of the project is the timber value chain. In the future, timber must become a decisive resource for material value creation in Africa (as well as in India and finally worldwide). The organisation of this value chain offers many professional opportunities and jobs. Likewise, renewable energies and modern IT technologies play a major role. Here as well, scientific support should play a central role.

c) Synthetic fuels

Synthetic, climate-neutral fuels will have to make a significant contribution to solving climate and energy problems, also in Europe. Among other sources, this is shown by the latest study by the World Energy Council (WEC, 2018). The path currently being pursued in Europe, especially in Germany (energy-efficient refurbishment of all buildings, comprehensive transition to electric cars, rapid withdrawal from coal and at the same time withdrawal from nuclear energy) will not solve the climate problem but will destroy a great deal of prosperity. This is due to the fact that electricity from renewable sources can only solve some of the problems because of the costly limits concerning production and volatility. Otherwise, massive overcapacities would have to be kept available for any eventuality. The expenses for electricity are increasing steadily in Germany, while we are making no progress on the climate issue (Radermacher F. J., 2018b). There is a risk of major political upheavals and even more populism if the anger continues to grow, because large sections of the population do not accept the partly planned economic solutions. Especially if this leads to noticeable losses in prosperity and has little effect in the climate sector. The yellow-vests movement in France has made the current negative mood obvious.

What is it about? Not all houses need to be renovated for energy efficiency and not all cars will have to be electric cars in the future. On the contrary, such a scenario would be a tragedy for Germany and Europe. The alternative is climate-neutral synthetic fuels, e.g. from North Africa. This is linked to DESERTEC 2.0 but avoids electricity fixation. The electricity approach was leveraged from two sides: firstly, by the German Renewable Energy Act, which massively discriminates against renewable electricity from Africa, and secondly by local resistance against the construction of large power lines.

Synthetic, climate-neutral fuels will very often be able to replace crude oil and natural gas. We can then continue to live in our homes as they are, use diesel and petrol vehicles and use our heating systems – because everything is climate-neutral. The company Avia offers already today (via compensation solutions) climate-neutral heating oil without additional costs for their customers. Synthetic fuels also offer new approaches to meeting the fleet requirements of automobiles when politics finally tackles the regulation at this point, i.e. reduced CO_2 emissions can be offset against fleet values. Unfortunately, it has

hardly been possible to go any further at this point so far. Many people want to prevent the proposed path, for instance because they want to put pressure on the automotive sector for ideological reasons. In addition, synthetic fuels, especially those from the sun-belt of the world, endanger many solely national business models in the field of renewable energies. The author considers a diametrically different policy to be necessary. We should continue to bear the import costs in this area, Africa and other emerging countries should be able to generate urgently needed revenues in this way. Germany is one of the world's leading exporters and therefore has a problem with the world because of its high balance of payments' surplus. That is why international division of labour is the better way forward in this case.

Instead, the production of hydrogen/methanol from water by electrolysis using renewable energy (e.g. from the Sahara) is pursued. Here, one could join an ongoing project financed by the Federal Ministry for Economic Affairs and Energy. This has already prepared for an African option as a later step. Key results of the ongoing German project are expected by the end of 2019. At the end of 2020, the go-ahead could be given for a large methanol production facility in North Africa and/or South Africa. South Africa, but also Indian locations, are interesting in this context because of their large coal-fired power plants. CO_2 from coal-fired power plants could be integrated into methanol production. Financing issues will play a major role here. In this case, too, scientific monitoring should be ensured. The German side will be challenged but can also benefit greatly from such an approach. International industrial partners have signalled their interest.

(d) The population issue

Nigeria is a hotspot for population growth in Africa. It is already the most populated country in Africa (190 million), with a population growth rate of 2.7%. A population of 410 million is expected in 2050. After India and China, Nigeria will then be the third largest country in the world in terms of population. The political situation in Nigeria is difficult. The country is partly Christian, partly Muslim. There are military conflicts in parts of the country. A main focus yet is on revenues from the booming oil industry.

The Rotarian Action Group for Population & Development (RFPD) has been active in Nigeria for more than 20 years. The activities so far concentrated on 8 of the 36 federal

states of the country. The activities have gotten the full support of the respective national governments and have been officially adopted into the respective health systems.

The projects pursued on site are all aimed at reducing infant mortality and reducing maternal illness and death. This is done largely using existing hospital infrastructure, even in rural areas. Medical services will be combined with broad education and, if desired, access to contraceptives.

Unique selling point is a high-quality medical strategy based on German experience and adapted to Nigerian conditions with Nigerian partners. The approach is based on evidence-based medicine. Based on software developed partially by the project team itself, successes and failures are rigorously documented and made available for statistical analysis. Information is processed over 4 aggregation levels. In the sense of benchmarks performance comparisons at all levels are possible. They also contain a competitive element in comparison with the neighbor. This unfolds a great motivational force.

After the previous roll-out to 8 Nigerian federal states, there is now the chance of a definite major final step. The Nigerian state has invited Rotary to extend the previous solution to the whole country, meaning all 36 states. The solution will be incorporated into the national health system. The different federal states have agreed, the operational support of the Rotarian side as well as the German Federal Government is requested.

The Marshall Plan is thus an approach that can promote the implementation of the SDGs by 2030 – if not completely, then in parts. In particular, it must meet the challenge of combining the necessary greater prosperity with more environmental protection and, above all, climate protection. The latter of which involves the massive production of negative emissions. Of course, the question remains as to whether this can be done and, in particular, whether the financial return potential is large enough to channel sufficient capital and lost subsidies into this area. Whether this can succeed is discussed in the last chapter. It essentially deals with BMZ's "Development and Climate Alliance", which was co-developed by FAW/n and presented to the public for the first time at a federal press conference in Berlin in November 2018.

6. The Development and Climate Alliance

From the author's point of view, the Development and Climate Alliance is a decisive initiative in the field of climate, SDGs, development and population issues. It could become a “game changer”, a quantum leap into another world. The alliance is essentially based on ideas by Radermacher F. J. (2018b). The focus is on a paradigm shift – a new frame. Politicians are being thanked for the Paris Agreement and the SDGs. Much more is not expected from politics. Contrarily, much more cannot be achieved by politics. It will be difficult to implement even the existing targets (NDCs). Instead, the prosperity segment of the world is to be mobilised – in poor as well as in rich countries. These are the so-called “top emitters” with hundreds of tons of CO_2 emissions per capita per year. They also tend to be the people with the greatest influence on the future of the world, namely through their assets, companies, local communities, logistics chains, annual incomes, influence on politics, etc. The top emitters also have most to lose in the event of a climate catastrophe. This applies to many assets that could be destroyed in a climate catastrophe, by migration of people, by closing borders (stranded assets) and massive lifestyle restrictions in the event of a disaster. The 10 % wealthiest in the world account for about 50 % of global greenhouse gas emissions (Chancel L., Piketty T., 2015).

What is the logic of the alliance?

Today's commitments – voluntary, revocable at any time and partly conditioned on cash inflows – by states to reduce greenhouse gas emissions will not be enough to achieve the objectives of the Paris agreement. If nothing is done on top, the present announcements will lead to a world with a temperature rise of 3 to 4°C. Thereby, dramatic consequences and setbacks for the development prospects of people in many countries lagging behind are impending and at the same time great dangers for prosperity in the rich world have to be faced. Many people in the global South are already suffering from climate change. On the capital markets, emerging states are already being punished for climate risks with higher interest rates. They therefore need much more support, on the one hand to be able to pursue sustainable development paths and, on the other hand, to arm themselves against the consequences of climate change. Major contributions by rich countries are needed if wealth creation in poorer countries shall be largely climate-neutral thanks to the use of new technologies.

Against this background, companies, institutions and private individuals worldwide must make an important contribution in order to limit the rise in temperature and at the same time promote sustainable development everywhere in the form of co-benefits. Privately financed, high-quality compensation projects can effectively complement governmental efforts on development financing, perhaps even surpass them in scope and effectiveness at some point.

Development and climate must be consistently thought together in order to preserve a world worth living in for present and future generations. This is where the Development and Climate Alliance comes in, mobilising additional contributions for development and climate protection.

What it is about?

With voluntary contributions by the private sector, the financial resources for the two major challenges of the future – climate change and sustainable development – are to be multiplied. In combination with compensating companies and institutions, compensation providers, certifiers and civil society, this additional commitment to development and climate should be taken out of today's niche situation, made more widely known and proposed for imitation. Over the next 10 years, the current volume in Germany is supposed to grow from around 6 million tonnes of compensation volume per year to at least 100 million tonnes. In the years thereafter, it should increase even more.

The contributions of the supporters of the alliance are voluntary and additional. They finance high-quality projects in developing and emerging countries that

- ✓ avoid, reduce or bind greenhouse gases and thus contribute to improving the global climate balance, e.g. through extensive reforestation projects and humus production in agriculture
- ✓ simultaneously promote economic and social development in developing and emerging countries (co-benefits) and thus contribute to the stabilisation of the world population, and
- ✓ provide proof of all these effects with high and independently audited standards.

The BMZ is setting a good example and will be climate-neutral by 2020.

To be achieved:

- ✓ political recognition of compensation for emissions going beyond the Paris commitments
- ✓ massively expand the voluntary emission trading market
- ✓ improve institutional and political framework conditions for compensation
- ✓ record and communicate compensation measures that have been implemented
- ✓ mobilise financial resources for climate protection and sustainable development and thus for the implementation of Agenda 2030
- ✓ advise and politically support the members of the alliance in their efforts to promote climate protection and development in a pre-competitive manner
- ✓ exchange experiences and bundle and disseminate know-how
- ✓ link the various actors more closely and internationalise the initiative

Many of the top emitters, many companies, many other players are already tackling the issue today (Radermacher F. J., 2018). This is happening beyond legal requirements in order to avert imminent dangers for the future. A silver bullet is the compensation of one's own CO_2 emissions through valuable projects in non-industrialised countries. This is at least as much about co-benefits for all SDGs as it is about climate effects. This can be done by companies, but also by organisations, event organisers, of course also by private individuals and – beyond the state requirements – also by federal states and wealthy municipalities. The German federal state of Hesse plans to achieve climate neutrality by 2030 (Hölscher L., Radermacher F. J., 2012; Worms M. J., Radermacher F. J., 2018). In this environment, a distinction is then made between project owners who realise corresponding projects in non-industrialised countries on the one hand and compensators who decommission high-quality certificates generated in such projects on the other. The compensators give non-refundable grants to the projects. They have a special leverage effect and often ensure the profitability of the corresponding projects and thus their realization (additionality).

In this environment a great potential is building up, even more as it becomes clear that more and more of these projects are contributing enormous co-benefits for practically all SDGs, typically in afforestation, for example, effects such as the improvement of biodiversity and water balance, but also infrastructure development, food situation, jobs, training and thus indirectly also progress in the population issue. The coupling of the Paris goals with many SDGs opens up a wide range of individual options. For example, climate activities can be coupled with

measures to improve the opportunities for women, to stabilise population development or to educate children, to finance, for example, bird protection or the protection of mangrove forests, which are of central importance both for the climate and for stabilising coastal areas.

To the extent that project owners and compensators are willing to invest in such issues, they support the implementation of SDGs. They therefore also act at the heart of the Marshall Plan idea. It is very good signal that Minister Müller and the BMZ, with their Development and Climate Alliance, are going in precisely this direction. This alliance is a "hands-on" alliance. On the one hand, it motivates people and, on the other hand, it takes people who compensate into protection from "stupid" – or at least little reflected – hostilities of the type "sale of indulgence", "ransom", "greenwashing".

Here a large lever becomes visible, here the hopes for an effective Marshall Plan with Africa could come together with the great demands in the area of SDGs via these mechanisms of action, e. g. via projects of the lighthouse type described above, all of which are also projects for high-quality CO_2 certificates in non-industrialised countries, with a high reference to co-benefits.

7. Final remark

Investments for better life perspectives for people living in Africa are not only massively more cost-effective than the use of social welfare state funds in Germany for refugees from Africa – everything that offers people an incentive to shape their future in their own country also respects the human dignity of those affected to a much greater degree. Private sector investment in this area, as promoted by the Development and Climate Alliance, can open a new chapter. They could release massive additional cash flows and mobilise "people that care" (for the projects they co-financed). This significantly increases the value of the funds invested. By 2050, the implementation of the SDGs may be feasible at a modest level. Hopefully, the world population will then stabilise at 10 billion people.

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