



Comitato  
per una Civiltà dell'Amore

**“Nuclear Disarmament: Opportunities for Peace and Energy Supply  
for Europe and the World”**

**Bruxelles, July 5, 2023**

# **Sustainable Nuclear Disarmament with Developing Countries**

## **Marco D'Agostini**



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The Article IV of Treaty on the Non - Proliferation of Nuclear Weapons (NPT), provides, among others, that Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, **with due consideration for the needs of the developing areas of the world.**

[\(https://www.un.org/disarmament/wmd/nuclear/npt/text/](https://www.un.org/disarmament/wmd/nuclear/npt/text/)

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At the 2005 Review Conference of the parties to NPT treaty, the Foreign Affairs Minister of Malaysia stated **on behalf of the group of Non-Aligned States**, that the NPT was at crossroads, with its future uncertain, emphasizing, on the one hand, their concerns for the fact that the nuclear-weapon States and those States remaining outside the NPT continue to develop and modernize their nuclear arsenal, threatening international peace and security and, on the other hand, that Access to material, equipment and technology for civilian purposes should not be unduly restricted.





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The validity of these concerns was confirmed by **the failure of the 2015 Treaty Review Conference**, which ended without reaching a consensus on the adoption of a Final Document



(Source:

<https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/147/50/PDF/N1514750.pdf?OpenElement>



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Based on concerns about the slowness of the nuclear disarmament process and the continued use of nuclear weapons in military and security concepts, doctrines and policies, it was adopted in July 2017, **mainly at the initiative of developing countries, the Treaty on the Prohibition of Nuclear Weapons (TPNW)**, which entered into force on 22 January 2021, in which, nevertheless, none of the nuclear-armed powers or most of the Industrialized countries currently participate!







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**The developing countries see the financial resources of disarmament and the conversion of nuclear weapons into Energy of Peace as the decisive factor for the tragedy of poverty and hunger. With this help, not only economic, but also in terms of partnership, sustainable development will be ensured both for nuclear powers and for poor countries themselves.**



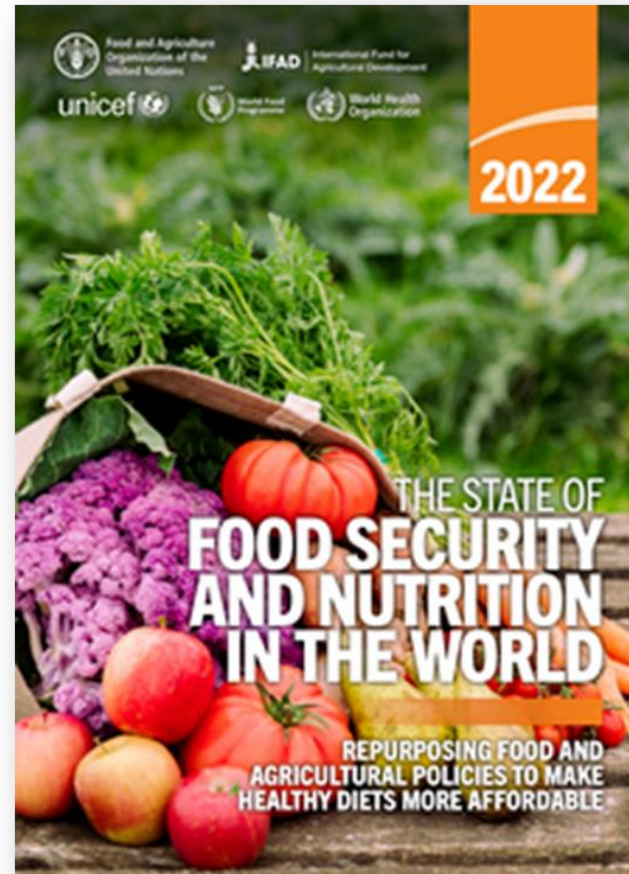


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**According to the Report on  
global food security "The State  
of Food Security and Nutrition  
in the World" of 2022<sup>1</sup>, in 2021  
more than 800 million  
inhabitants of the planet  
suffered from hunger: 150  
million units more than since  
the onset of the COVID  
pandemic in 2019.**

1) <https://reliefweb.int/report/world/state-food-security-and-nutrition-world-2022-repurposing-food-and-agricultural-policies-make-healthy-diets-more-affordable> -





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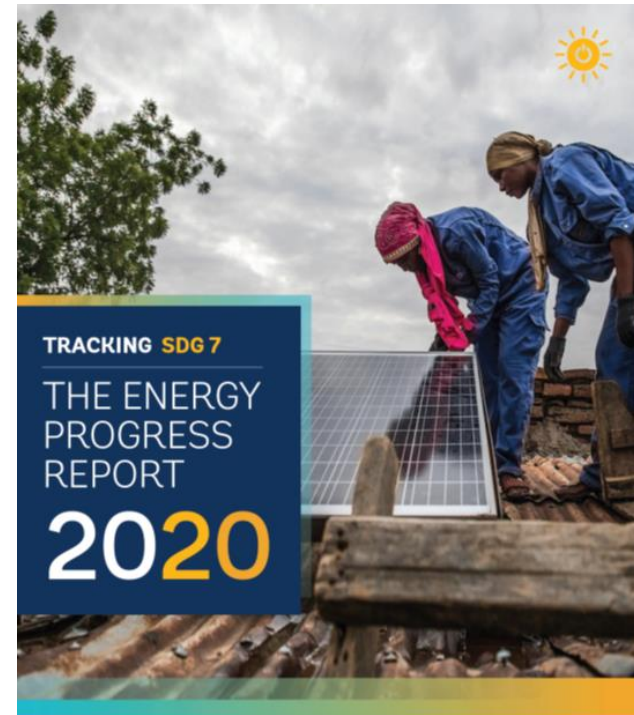
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Moreover, it is necessary to keep in mind the correlation between hunger and lack of access to energy and, in particular, to clean energy sources.

According to the 2022 report on the implementation of SDG 7, Energy Progress, it is estimated 730 million people will still lack access to electricity in 2030, 85% of them in sub-Saharan Africa.<sup>1</sup>

(1)

<https://www.worldbank.org/en/topic/energy/publication/tracking-sdg-7-the-energy-progress-report-2022>



A joint report of the custodian agencies







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The Nuclear Disarmament could in fact also address the issue of using the proceeds of disarmament to finance the fight against hunger and the development of the poorest countries not only through the direct use of nuclear fuel but also through **the financing, thanks to those proceeds, of programs for the diffusion of renewable energy for irrigation systems, including micro-projects.**





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This is not a dream. In this regard, we recall the success of the **Megatons to Megawatts Program**, completed in December 2013, the Agreement between the Russian Federation and the United States of America on the disposal of highly enriched uranium extracted from nuclear weapons, dated February 18, 1993, as a result of which the equivalent of 20,000 nuclear warheads were converted into Peace energy





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The total purchase price of the enrichment portion of the material in the framework of **Megatons to Megawatts Program** was about 14 billion dollars in current monetary value, without considering the further growth in energy costs.

Today the Sepielli Rotunno report tells us that from the destruction of arsenals, equal to 50,000 atomic bombs, revenues between **50 and 800 billion US dollars** can be obtained



Source:

<https://www.centrusenergy.com/who-we-are/history/megatons-to-megawatts/>

<https://www.in2013dollars.com/us/inflation/1999>





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**Furthermore,  
Why not use a  
share of the  
aforementioned  
resources for so-  
called micro-  
projects?**



Training on compost preparation with natural elements such as leaves, grass and manure, Ethiopia 2021



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**We know that we cannot give up on mega projects (large dams, highways, mega plants, etc.) but how much of these resources directly benefits rural populations? Are we aware that 80% of the third world population lives in rural areas, especially in Africa?**



Picture: workers preparing a demonstration nursery for seeds





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## **Caritas in Veritate, 47:**

“Solutions need to be carefully designed to correspond to people's concrete lives, based on a prudential evaluation of each situation.

**Alongside macro-projects, there is a place for micro-projects, and above all there is need for the active mobilization of all the subjects of civil society, both juridical and physical persons”**

[https://www.vatican.va/content/benedict-xvi/en/encyclicals/documents/hf\\_ben-xvi\\_enc\\_20090629\\_caritas-in-veritate.html](https://www.vatican.va/content/benedict-xvi/en/encyclicals/documents/hf_ben-xvi_enc_20090629_caritas-in-veritate.html)



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**We would like to  
deepen some  
operational  
hypotheses of  
intervention in the  
field of micro-projects  
with concrete  
examples based on  
our experience**



The center of a rural village in southern Ethiopia: on the right the Head of the Village office, on the left the agriculture Office



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**Our experience derives in particular from the “Employ” project, carried out by the Committee for a Civilization of Love with CEFA, which was its leader, and other partners, which involved 100 rural villages located in 5 Districts of the Wolaita area, in the Southern Nations, Nationalities and Peoples' Region (SNNPR), Ethiopia.**



Training on Good Agricultural Practices in the framework of the “Empoly” Project



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The project constituted a sort of aggregate of micro-projects that involved both individuals and local communities.

Among others, the main activity of the project was the technical training on Good Agricultural Practices, **which was attended by 47,000 farmers!**



Training on Good Agricultural Practices





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**The project also included:**

- **training on strengthening of cooperatives and market access.**
- **Support and advocacy actions with local institutions**
- **Training for the use of financial and micro-credit tools**
- **a Summer School in Italy**
- **The activation of a revolving fund to support cooperatives investments**







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**During the "Employ" project it clearly emerged that one of the main limits to the development of more modern agriculture in the area is linked to the lack of water, which is not so much attributable to climatic or morphological factors as regards the absence of investments and training for systems of collection, saving and rational distribution of the available water.**



An empty artificial water catchment basin in Southern Ethiopia



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# THE PROPOSAL

**Based on our experience on the field, we have estimated that the creation of a relatively advanced farm, of 7,5 hectars, suitable for occupying a community of about 15 farmers and feeding their families, for a total of about 75 members, could cost about 129,000 US\$ of which:**





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- **Drip irrigation system:  
10,000 US\$**
- **solar energy system: 65,000  
US\$, power capacity 44,2  
kWp**
- **Agro-zootechnical material  
(seeds, metal nets, wood,  
cement, fertilizers, tools,  
nurseries, etc.): 15,000 US\$**
- **Transport and installation:  
8,000 US\$**
- **Start up Training, Staff, Tax,  
etc.: 31,000 US\$**



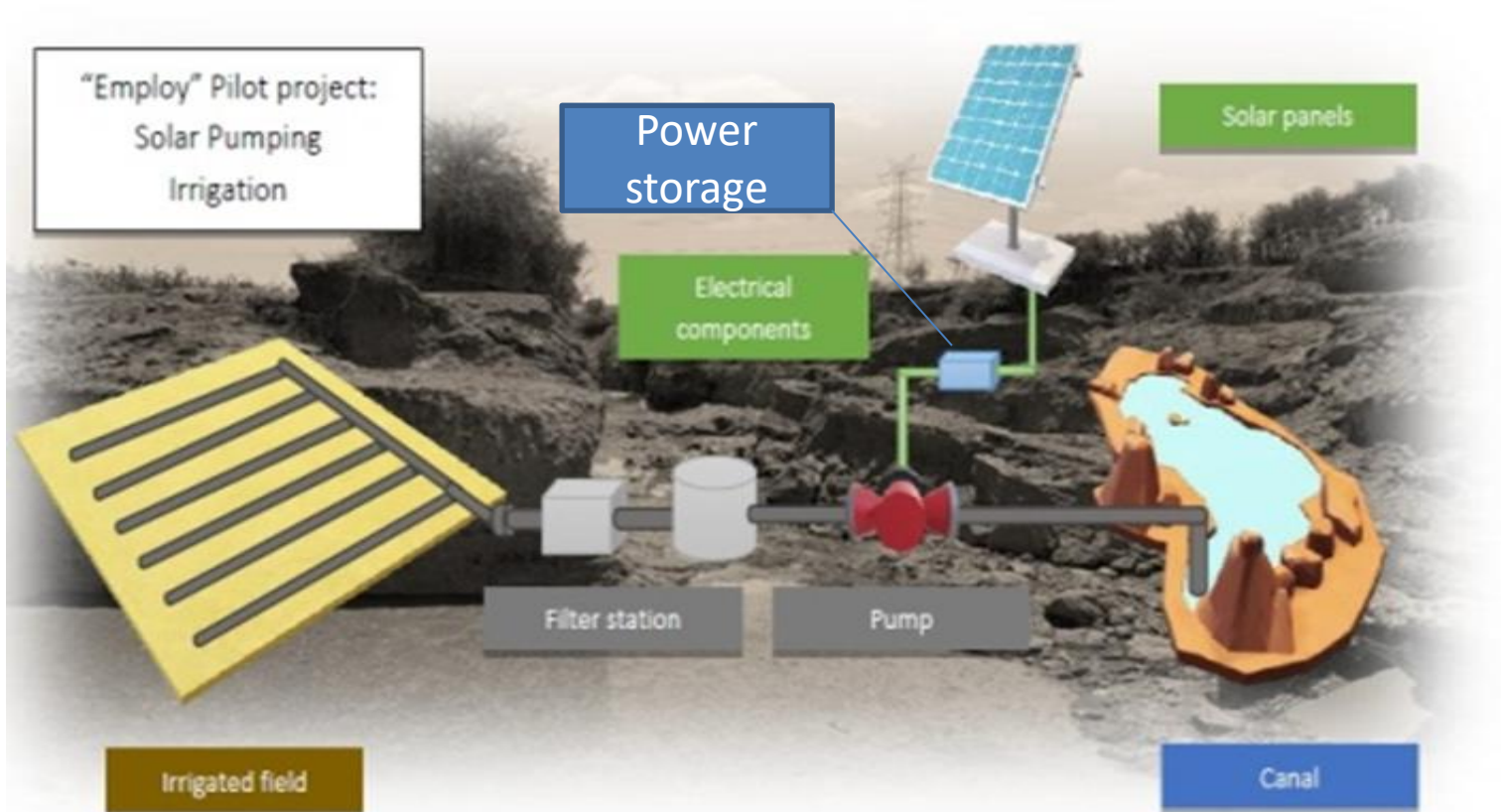




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**We could intervene according to the following scheme:**





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This means that, **with a cost of 8.5 million US\$, about 67 farms could be built, feeding a village of 5,000 inhabitants**, which is the average size of the villages in Ethiopia. On a larger scale it means that **14 billion US\$, the present value of the revenues of the M2M plan, could feed 8.1 million people** sustainably, permanently and using renewable energy



**Drip irrigation system powered by solar energy installed in Ampo Koysha, Wolayta, Southern Ethiopia**





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**But how to  
carry out these  
projects?**

- 1. A gift?**
- 2. On loan?**
- 3. Or a mix?**





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According to our experience, **a mix** of these intervention methods would have the maximum effectiveness:

- the financial resources would have a **leverage effect** (revolving funds could be regenerated by loan payment installments)
- the educational impact: the final beneficiary farmers would not only receive goods and agricultural training but would also improve a real **entrepreneurial ability!**



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# For this we propose to intervene in **3** **PHASES:**

- Phase 1: for the construction of about **100 demonstration solar irrigation systems** donated in 2 years
- Phase 2 for the **construction of approximately 2,300 green farms** equipped with solar irrigation systems with an experimental micro-finance component
- Phase 3 for the **construction of up to 9,2 million farms** equipped with drip irrigation systems powered by solar energy with a proven micro-finance component



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# Phase 1:

- Creation of a Fund for a pilot project of approximately € **14 million dollars**
- Duration of the pilot project **2 years**
- Creation of **100 demonstration irrigation systems powered by donated solar energy** in 100 different villages
- Number of **direct beneficiaries as employed: 1,700**
- Number of **indirect beneficiaries** (persons from the families of the employed): at least **8,700**

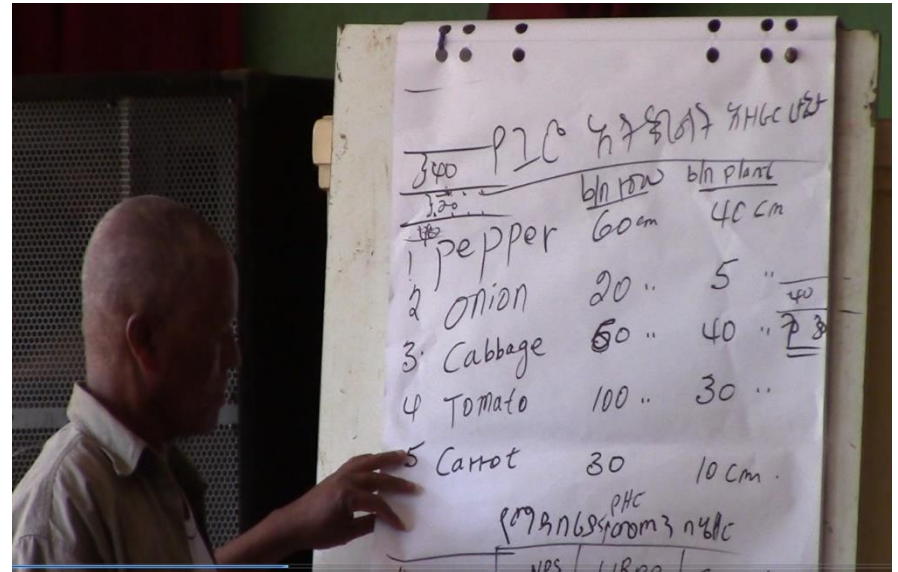


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### Phase 1 would serve to:

- Test the most suitable materials (panels, inverters, irrigation systems, etc.)
- Verify its actual productivity and quantify its **costs and benefits**
- Test the **training methodologies**
- Evaluate **the impact on local communities**, both in terms of living conditions and in terms of reaction to the introduction of new technologies but also new forms of aggregation for the organization of work



Training on Good Agricultural Practices and market access in Wolayta, Southern Ethiopia





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## **Phase 2:**

- Creation of a 2<sup>nd</sup> Phase Fund of approximately **380 million dollars** financing both revolving funds (200 billion \$) and grants (180 billion \$) to support the creation of new green farms
- **Duration of the 2<sup>nd</sup> Phase project 12 years**, starting after 2 years from the previous Phase
- **Creation of 4,600 green farms** with irrigation systems powered by solar energy **financed 30% by non-repayable grants** and 70% by soft loans to be repaid in 10 years, after a two-year grace period, at a subsidized rate
- Number of **direct beneficiaries** as employed farmers: **69,000**
- Number of **indirect beneficiaries** (persons from the families of the farmers): at least **346,000**



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## **Phase 2 would serve to:**

- verify the economic, social and environmental **sustainability of the farms** created and the ability of the communities that work there to deal with business planning and micro-finance tools
- verify the **functioning of the revolving funds** thus created before disseminating them on a global scale





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## **Phase 3:**

- Launch of a program of approximately **760 billion billion dollars** for financing both revolving funds (400 billion \$) and grants (360 billion \$) to support the creation of new green farms on a large scale
- Duration of the 3<sup>rd</sup> Phase: **12 years**, starting after 5 years from the beginning of Phase 1, and 3 years after the start of Phase 2
- Creation of **9.2 million green farms** with irrigation systems powered by solar energy **financed 30% by non-repayable grants** and 70% by soft loans, to be repaid in 10 years, after a two-year grace period, at a subsidized rate
- Number of direct beneficiaries as **employed: 138 million farmers**
- Number of indirect beneficiaries (persons from the families of the employed): about **690 million people**

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# SUMMARY

	Phase 1	Phase 2	Phase 3
<b>ENDOWMENT OF PHASE FUND</b>			
<b>Fund for financing the portion on loan</b>		200	400,000
<b>Fund for the financing of the grant quota</b>	14	180	360,746
<b>TOTAL IN MILLION US DOLLARS</b>	<b>14</b>	<b>380</b>	<b>760,000</b>
<b>Number of farms built</b>	100	4,600	9,200,000
<b>Number of direct beneficiaries as employed farmers</b>	1,700	69,000	138,000,000
<b>Number of indirect beneficiaries (households of the involved farmers)</b>	8,700	346,000	690,000,000
<b>Methods of intervention</b>	100% gift	30% gift and 70% soft loan	30% gift and 70% soft loan
<b>Power capacity of GWp from solar energy achieved</b>	0.01	0.10	408.70



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Furthermore, an amount of **3.5 billion dollars**, applying the cost per beneficiary of 24 euros experienced with the aforementioned Employ project, **could train 145 million farmers**, which means, with a conservative estimate of 5 people per household, **change the living conditions of 725 million people**





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**Such a program, financed by the nuclear disarmament process, appears as one of the most concrete proposals to achieve the goal of zero hunger. It could also contribute to a greener world by achieving a production capacity of around 400 GWe from solar energy.**







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**THANK YOU  
FOR YOUR  
ATTENTION**



«Bread» prepared with Enset (False banana) tree bark