**Eradicating extreme poverty: what is the role of agriculture?**

**Collection of contributions received**

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# Topic note

Dear Members,

With this online discussion, we would like to invite you to reflect on the nexus between extreme poverty and food insecurity and to engage you into a conversation on the role that agriculture, agricultural development and natural resources such as fish, livestock and forests can play in lifting the poorest of the poor out of their ordeal.

People living in extreme poverty today are 767 million worldwide, which means that almost 11 in every 100 lives on less than US$1.90 a day (World Bank, 2016). Extreme Poverty can be defined as a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. The extreme poor are mostly those that have been left behind by economic growth and development efforts.

The huge challenge of eradicating extreme poverty worldwide has been captured by the SDG1 “End poverty in all its forms everywhere”.

A similar and somewhat overlapping dimension concerns hunger: people living in hunger are around 815 million according to the latest FAO estimates.

There is little doubt that hunger and poverty are closely linked and that these two conditions often perpetrate a vicious circle: hunger is an effect of poverty but also a cause of it. Hunger depletes the potential for human beings to develop capacities to lead healthy and economically useful lives. Low productivity in turn perpetuates underdevelopment and hunger.

The rural dimension adds another important dimension as the majority of the extreme poor and food insecure live in rural areas and depend at least partly on agriculture and natural resources for their livelihood.

Nevertheless, policies and interventions addressing hunger and extreme poverty are often sector-specific and look at either of the two problems. Agriculture interventions often aim at strengthening the food security and nutrition of rural communities and target food insecure smallholders that have a potential productive capacity; in other words, agriculture mostly looks at those who have some assets, leaving the extreme poor behind. On the other hand, the very poor are targeted by food distribution schemes that not necessarily contribute on their own to build sustainable path out of extreme poverty.

The poorest households also have productive potential when they are given the means to be so. There is a growing bulk of evidence that involving the poorest of the poor into economic responses such as cash transfers programmes contributes to increased asset base and agricultural production of the poorest households, in addition to contributing to their food security.

Given the importance of agriculture for the livelihood of the extreme poor, policies and activities aimed at improving the lives of these people, need to include agricultural development elements.

Along these lines, FAO is engaged in a broader reflection to refine and improve its approach towards the eradication of extreme poverty by using its experience in supporting the development of agriculture and the livelihoods of rural dwellers and contributing to the SDG agenda, leaving no one behind.

To stimulate the debate, we would be grateful if you could share your experience and views on the questions below:

1. **Under what conditions can agriculture succeed in lifting people out of *extreme* poverty? Particularly those households with limited access to productive resources.**
2. **What is the role of ensuring more sustainable natural resource management in supporting the eradication of *extreme* poverty?**
3. **Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?**
4. **What set of policies are necessary to address issues connecting food security and *extreme* poverty eradication in rural areas?**
5. **Can you share any examples of experiences that succeeded in reducing (or eradicating) *extreme* poverty through an agricultural pathway?**

Many thanks in advance for your interest in this topic. We look forward to receiving your valued inputs.

Ana Paula de la O Campos and Maya Takagi

FAO, Italy

# Contributions received

##  Lena Acolatse, Partnership for Child Development, Ghana

Dear all,

Coming from a country (Ghana) and having worked in a few countries where there are rich agricultural lands, it is sad to see huge masses of the populace still living in extreme conditions of poverty, of which the majority are farmers or people involved in some form of small or medium scale agricultural enterprises.

My experience has thought me that though agriculture does play a huge role in the effort to eradicate extreme poverty, there is a large gap in its ability to do so especially from post-harvest losses (i have seen firsthand, produce that should have been sold to make money go bad and tossed to the rubbish heap simply because the "middleman" who promised to buy couldn't make it in time or there were rains which made the road unpassable), a basic lack of knowledge or no entrepreneurial skills on the part of the farmer among several other reasons.

It is true that agriculture, if harnessed correctly and partnered with other sectors such as education, knowledge sharing, infrastructural development agencies among others has a huge potential to eradicate extreme poverty in order to change the current status quo with respect to poverty eradication.

Best wishes,

Lena N. Acolatse (MSc)

Nutritionist

## Mostafa Jafari, RIFR/IPCC/TPS for LFCCs, Iran

Dear all,

I just want to remind you that if we want to eradicate or eliminate poverty and try to define role of agriculture in this context, we need to consider all or at least main drivers.

I think "climate change" is very important issue which has impact on agriculture

And also impact on poverty and social and economic condition.

So from the beginning it is a need to put the issue on the table.

All the best wishes for all.

And hoping to be able to eradicate poverty in real term.

Mostafa Jafari

## Rabiu Auwalu Yakasai, Food and Nutrition Vocational Center, Nigeria

Hello once again members,

It is true and based on scientific evidences that climate change has great deal of impact accelerating poverty-driven agriculture. Climate change has different effect and impact on different regions of the world. In northern Nigeria for example, may be only the learned know about the practical effects of climate change on local agriculture that leads to extreme poverty. But critical xray of the trend will highlight lack of practical knowledge and skill for managing associated agriculture-related extreme poverty. Two simultaneous approaches are very vital with each depending on point of application and economic status of recipients:

a) Organized rural-urban farm produce marketing. This approach holds significant promises to reduce extreme poverty suffered by farm producers that have production resources yet suffer business short-circuit. To those actors lacking production resources but can bridge the production-market demand they also have sustainable means of checking extreme poverty.

b) Strengthen agriculture-nutrition linkage. The link between agriculture industry and nutrition in our part of the world is very weak despite enormous potentials for reducing extreme poverty and improve nutrition particularly at the household and community levels.

The connecting element for these approaches is knowledge and skill given in the form of vocational training in AgFood and small food business development. Postharvest loss is very high especially perishable farm commodities. Non-perishable farm commodities are greatly underutilized with limited benefit. Both postharvest loss and underutilization of commodities occur on huge scale that made negative effect of climate change seemed irrelevant or even non-existent. But we know it is there. So the challenge really is to first of all overstretch obtainable benefits of ongoing harvests from field to market, to kitchen and table to be able to differentiate the real impact of climate change on local agricultural production and emerging associated extreme poverty. This is our situation.

Rabiu Auwalu Yakasai

Director

Food and Nutrition Vocational Center (FNVC)

Kano Nigeria

## Md Zahangir Hossain, University of Newcastle, Australia

Dear Members,

From my experience, I think the following concepts may lift out the extreme poverty:

1. Climate-smart agriculture (CSA): This concept is well known in Africa and Asia. In this concept, the agricultural component will be based on the local resources. For example, if we cannot grow crops then we could include poultry or animal farming, or even sometimes change the food habit. I have experience on the development of a model for CSA in the coastal region of Bangladesh.

2. Year-round vegetables: In Bangladesh, there is some developed model of this concept of Bangladesh Agricultural Research Institute (BARI) for various regions of the country. I was also part of this concept.

I hope these concepts can help for the best

Zahangir

PhD student

The University of Newcastle

Australia

## Dr Amanullah, The University of Agriculture Peshawar, Pakistan

No peace without food security. Food security depends on sustainable crop management. Increase in yield reduce food security issue in poor countries. So best agriculture practices (increase in yield and grow in income as well as improvement in environmental quality) significantly reduce poverty and improve health of all especially smallholders (poor farmers) in developing and under developed countries.

Amanullah

## Wajid Pirzada, Roots Pakistan, Pakistan

We can always help alleviate poverty, but its complete eradication is perhaps difficult, especially through agriculture alone, if not impossible, for many counts including inter alia:

i. Lack of distributive justice: People across the globe have unequal access to resources, including natural resources and access to opportunities that impact negatively on efforts to develop even societies.

ii. The inequities and inequalities in ranks of societies lead to unsustainable production & consumption that in turn set in a vicious circle of poverty, food insecurity, hunger & disease.

iii. One Size fit, exotic solutions offered by international players including the World Bank, IMF, WTO and others have led to lopsided development.

iv. Climate Change (CC) is further precipitating inequalities, as the poor are the one to bear the brunt of CC, being on front line.

We need to focus sharply at first instance to sustainable production and consumption, contain post-harvest losses, encouraging value added agriculture and promoting green technologies. Needless to mention that policy-deficit at global & national levels needs to be addressed and informed, evidence-based home-grown solutions need to be offered for poverty alleviation.

## Devinder Sadana, ICAR, India

Dear Members,

I am impressed by the strong linkages of the local people that brings them together for the local common cause (like) : better integrating the local livestock breed with local agriculture to reduce extreme poverty. Local breed has the capacity to - first of all - provide some nutrition to children and women, and, when improved through breeding it has strengthened local livelihoods. Examples from the rural areas of Kutch in Gujarat state for the local Banni buffalo breed helped eradicate extreme poverty during the last decade, just as the case (in Telangana state) of highlighted use of draft power of local Nallamalla cattle males for local agriculture brought some income for the families to bring them out from extreme levels. I note, the local breeds and local resources automatically adapted to whatever climate change, and saved us from planning any new actions to save from warming or climate change. Improved breeding was necessary, and interestingly, the farmers, especially the elders, knew this was the better approach. Message is: Instead of planning a major change, minor but planned alterations here and there to bring in facilitating the life-cycles (of livestock, crops and microbes) with cordial linkages among the local people to get together for the common cause - can do wonders.

Thanks,

Sadana

## Halimatou Baldeh, Food Safety and Quality Authority of the Gambia, Gambia

Good Day to all members of the FSN Forum. I salute you all for availing me the opportunity to gain varied ideas on Agriculture especially from other African countries. To start with, i want to put it to any one reading my post that my specialised area of study from diploma to Bachelors level is Public and Environmental Health but i want to say that I am so much in love with Agriculture that I value it than anything. The reason is i am an agriculturist by nature because i am born and brought up from a very tiny village in the Gambia whose main activities are only Agriculture.

Back to Question Number 1: If we want to succeed in lifting people, from extreme poverty we need to consider the following points:

1. We need to value Agriculture knowing well that everybody in the world depends in one way or the other on agricultural produce. In that the first thing we need to think about are the people that are directly involved in the Agriculture Value Chain that is the farmer, the trader, the processor and the consumer. All farmers must have access to enough land at little or no cost so as to produce in abundance to meet every body's demand.
2. In the Gambia, for example, majority of our farmers, both in large and small scale are women. These women are involved in all forms of farming which include but not limited to: vegetable gardening, farming on different food crops, animal husbandry just to name a few. Unfortunately, these are people who are marginalised when it comes to land acquisition. In the Gambia, women don’t own land but can only ''be borrowed'' based on the time they need it and this is sometimes difficult. Having said that women in the whole world need to legally own land to enable them do all kinds of agriculture without fear or favour.
3. Another solution to the problem is to mechanise agriculture and do away with the old ways of farming in order to produce abundance.
4. When I was in the village farming with my father, I cannot remember any time that he uses NPK (Nitrogen, Phophorous and Potassium) in his crops but instead we always use organic manure in the form of animal waste to fertilise our farm land. In this case if farmers are given adequate resources and rear animals alongside other means of farming and enough space to keep and rear their animals, there will be enough and cheap manure to keep the land fertile in order to produce more.
5. Another important aspect to consider to eradicate poverty is to encourage more processing of our farm produce to reduce food waste. In the Gambia for instance, we produce lots of different fruits and vegetables during different times of the year but once the season for those fruits and vegetables have passed, you can never see traces of them. Any surplus that was not be consumed when fresh must rot and be wasted because there are no processing procedures for them. So a lot of investment need to be put in place for poor countries in the African Region so as to:
* create more job opportunities for people especially the youths
* be able to export to other countries( such as America , EU and Asia) to boost the country's economy
* maximise produce and minimise waste.
1. Last on this but not the least, our leaders and policy makers need to close the Gender Gap in the acquisition of land especially in our traditional and cultural societies. We need to ensure that women have equal opportunities to farm lands just like their fellow women. We all know that most of both our cash crops and domestic produces are cultivated by women using the most old and ancient way of farming, such as manually tilling the land, using hoes, etc.

## Halimatou Baldeh, Food Safety and Quality Authority of the Gambia, Gambia (2nd contribution)

2: The role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?

In order to eradicate extreme poverty by ensuring more sustainable natural resource management the first thing we as policy makers need to think about is how best to preserve our forest cover. In recent years the world has been experiencing scanty and unpredictable rain falls which are affecting agriculture in all ways. Governments need to put in policies that will discourage illegal logging and encourage more ways of preserving our forest. We need to encourage community foresting where by communities are given the full responsibilities of planting more trees and falling few ones.

Another strategy to be used in sustainable natural resource management is to encourage more organic farming.

## Aklilu Nigussie, Ethiopian Institutes of Agricultural Research, Ethiopia

For today let me only focus on the first question "under what condition can agriculture contribute in poverty alleviation of the extreme poor”.

For this let’s view the technology in research and development:

1. For those households who have limited access to productive resource; access to agricultural technologies via public extension or non-public system is vital. In this case capacity development and technologies package system can accelerate the lift-up from poverty.

2. On the other direction the technologies should be targeted to the available resource that can be may be used diary, poultry, beekeeping-like using hill side development integrated with afforestation and conservation development or river bank application system.

3. On the crop production side horticultural crop at homestead level and early maturing type of production of high value crops can have a returns yet the food crop production has to be sustainable (engage them marketing system like creating a small scale cooperative development).

4. Here the big solution should come from the research and development with triangulated solution involving policy makers, and other stakeholders. There is a thought that agriculture contribution to poverty alleviation is minimal when compare to non-agricultural sector; which I disagree because agriculture has a versatile effect from food security, nutrition, market stability, employment, environmental stabilization, etc but it needs smart policy makers with different stakeholder to the issue of poverty if the optimal policy is implemented then it’s effect will accelerate trigonometrically with diversified effect and will apply diffusion its impact to raw materials and others. But it has to have a curiosity as it will affect also human health directly.

## Emile Hougbo, National University of Agriculture, Porto-Novo (UNA), Benin

Original contribution in French

D'abord, il faut reconnaître que l'agriculture est secteur stratégique dans tout le monde entier, quel que soit le pays. Même en théorie, les agro-centristes (Kuznets, Ojala, ...) et les industrio-centristes (List, Kautsky, ...) lui accordent tous une importance incontournable, sauf qu'elle est le secteur moteur dans un cas, et le secteur mû dans l'autre. La transition agricole est fortement corrélée à la croissance économique d'ensemble dans tous les pays du monde. En rapport avec son importance dans l'économie et la population active, la Banque Mondiale a distingué depuis 2007 trois catégories de pays dans le monde: les pays à vocation agricole (Bénin, Côte d'Ivoire, Ghana, Nigeria, Mali, Kenya, ...) où l'agriculture occupe la plus grande partie des pauvres, les pays en mutation (Maroc, Chine, Inde, Indonésie, ...) et les pays urbanisés (Amérique latine, Asie centrale ...). La dynamisation de l'agriculture en général et surtout le développement de l'agriculture écologique (agriculture durable) en particulier s'avère fortement plus indiquée pour induire une croissance pro-pauvre et réduire significativement l'extrême pauvreté dans les pays à vocation agricole. Ce n'est pas le cas dans les pays urbanisés où la pauvreté est essentiellement un phénomène urbain.

**English translation**

Firstly, we must recognize that agriculture is a strategic sector everywhere in the world, irrespective of the country. Even in theory, the agro-centrists (Kuznets, Ojala, ...) and the industry-centrists (List, Kautsky, ...) attribute outstanding importance to it, except that it is the driving sector on the one hand and the reacting sector, on the other. Agricultural transition is strongly linked to economic growth in all countries in the world. With respect to its significance to the economy and the working population, after 2007 the World Bank has singled out three categories of countries: the agricultural countries (Benin, Ivory Coast, Ghana, Nigeria, Mali, Kenya ...) where agriculture employs most of the poor population; the transitional countries (Morocco, China, India, Indonesia ...) and the urbanized countries (Latin America, Central Asia...). The revitalization of agriculture in general and the development of ecological agriculture in particular (sustainable agriculture) has proven to be very clearly identified as leading to growth in favor of the poor and to a significant reduction of extreme poverty in the agricultural countries. This is not the case in urbanized countries where poverty is essentially an urban phenomenon.

## Bulent Gulcubuk, Ankara University, Turkey

By supporting family farming and ensuring sustainability,

By organizing the producers-spreading the co-operative,

By passing on the policies of integrated rural development, their implementation.

Increasing the youthfulness of rural youth.

Taking into account gender equality in agricultural policies.

## Wendkouni Joël Zongo, Côte d'Ivoire,

Dear Membres,

In Africa, the vast majority of the poor live in rural areas where people's livelihoods depend on agriculture and related trade, services and processing activities. This suggests that most of the income of the rural poor comes from agriculture-related activities. As a result, the fight against poverty is mainly a question of improving the living conditions of rural populations, in particular by strengthening agriculture, but also by promoting alternative sources of income. To do this, it is important firstly to stop the rural exodus by creating attractive living conditions in rural areas, thus enabling people to feel good in their village and contribute to the development of their locality, thereby reducing the number of homeless people in cities. Then, we must create good working conditions for the agricultural farmer taking into account his working environment and all that surrounds it because the first agricultural investment is the producer himself, the more he works in an environment favourable to his needs and more is motivated to produce more. In addition, access to credit must be made easier for small agricultural farmers, youth groups and women producers who want to start farming. The implementation of such actions could improve the standard of living of rural populations and thus reduce poverty in a global manner.

In the city, although agriculture offers an opportunity for young people to escape poverty and improve their living conditions, they are not always attracted to the agricultural sector. Indeed, the idea received by young people regarding agricultural trades is pejorative; it is unthinkable for them that a university graduate, after long studies, finds himself in plantations; they prefer to work in air-conditioned offices and not under the sun between plants. It is therefore urgent to find ways to make the agricultural sector more attractive to African youth (It is estimated that more than 41% of Africa's population is under 15 years old, those aged 15 to 24 represent 20% of the total population and about 11 million young people, will be expected each year on the labour market (FAO)).

Nowadays, young people use a lot of new technologies, they are the tools they like the most. It is therefore possible to transform / and or modernize the agricultural sector so that it is endowed with the latest technologies, which will allow a little time to attract young people to the agricultural trades but also to have a sustainable agriculture which to its tower will achieve food security.

Joël Zongo

## Claudio Schuftan, PHM, Viet Nam

Dear friends all,

The call for this discussion starts from the wrong title, I’d say. I have many times advocated that the issue is not eradication of poverty; the issue is disparity reduction: the cake has to be re-sliced more equitably! (it is a zero sum game...)

A focus on interventions addressing hunger and extreme poverty are indeed sector-specific --and this is the problem.

If the discussion calls on inputs on the role that agriculture can play in improving the lives of the poorest of the poor we are precisely again falling on a sector-specific approach. Am I wrong?

FAO's approach towards the eradication of extreme poverty by using its experience in supporting agriculture thus needs to be expanded to embrace a disparity reduction approach.

Also, speaking of ‘the poorest of the poor’ is so depersonalizing. These are people rendered poor by an age-long process of deprivation, marginalization and exploitation. This is their ‘ordeal’, as you say. What are agricultural interventions going to contribute to change this?

Yes, SDG1 is right: “End poverty in all its forms everywhere”. But have the SDGs really set the tone for this in the next 12 years? The clock is ticking...

You are right when you say that ‘agriculture mostly looks at those who have some assets, leaving the extreme poor behind’. When you talk about cash transfer programs you are a small step closer to what I mean.

I do hope FAO refines and improves its approach towards, not the eradication of extreme poverty, but towards disparity reduction. People have been ‘left behind’ for eons. The SDG slogan is thus aspirational at best.

*1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources*.

Unfortunately under none if used sector specifically.

*2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?*

This, again is only one aspect of the problem. If taken alone, little can be expected.

*3. Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?*

‘Without opportunities’ relates to having been rendered poor and having been left behind and points towards disparity reduction actions that will only come if these groups act as claim holders, organize and mobilize to demand redress.

*4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?*

Demand that the SDGs be reconsidered so they can apply the human rights framework to achieve the goals through 117 progressive realization indicators. (I know I am a dreamer…)

## Chris Cook, Nordic Enterprise Trust, United Kingdom

Simple networked institutions (such as Kenya's Chamas) and instruments (credits/promises issued by farmers) are necessary to mobilise agricultural locally and bottom up as well as production sharing forms of tenure.

My UK presentation sets out this Regenerative Land Partnership approach:

<https://www.youtube.com/watch?v=SCDqQGaVEm4>

## Kuruppacharil V.Peter Peter, Kerala Agricultural University, India

"Zero Hunger India: Policies and Perspectives" is an edited book carrying 6 messages, 6 preambles and 26 chapters authored by the best available expert in the topic. Transformation of India from a starving nation in 1947-1962(ship to mouth) to the present food surplus(farm to ship) country (278 million tons of food grains and 307 million tons of fruits and vegetables is the saga of political support and policy(Late Indira Gandhi and C .Subramaniam),use of science and technology and international collaboration (M.S Swaminathan and N.E.Borlaug),hard-working and toiling farmers of Punjab, Western UP, West Bengal, Tamil Nadu and Odisha,a well-knit public distribution system led to GREEN REVOLUTION. Despite availability of food, access to food and horticultural produces is limited to only above middle class people. "Among mountains of food grains, millions go to bed without a meal" is a paradox. In 2013 the Indian Parliament enacted the National Food Security Act which made access to food-grains, pulses, millets- a right. An effective Targeted Public Distribution System came into existence. Distribution being digitalized, loopholes were plugged. Despite all the above measures India continues to host the world’s largest number of women and children anaemic. Child malnutrition is rampant-stunting, low birth weight and high child mortality. Population explosion and carrying capacity of the available natural resources -land, water, air-need to be reviewed.

The book will be released on 7th August, 2018 on the birth day of Prof.M S Swaminathan

## Paul Rigterink, Potomac Technical Advisors, United States of America

I am working with Agriculture engineers at the University of Cordoba, Department of Cordoba, Colombia. The University of Cordoba agriculture engineers have world class community outreach efforts in which each agriculture engineer is assigned to train extremely poor campesinos in one to four municipios within the Department of Cordoba. In order to help the extremely poor campesinos I have suggested the following procedure.

Identify the methods that poverty stricken campesinos feel they can best get out of poverty by monitoring the applications for agriculture micro loans to different micro loan organizations such as Kiva

Provide You Tube vocational training videos so that the extreme poor have training material on tropical lowland agriculture and small animal raising. The Government of Colombia has provided excellent You Tube training videos on how to grow papaya in the Department of Cordoba

Periodically have a student or professor come to the community to teach classes and answer questions. The Department of Cordoba agriculture engineers currently teach classes on the growing of papya, yucca, and white yams.

My suggestions for the FAO are the following

Provide YouTube training videos that are appropriate for different tropical and arid lands areas. The You Tube videos should be classified by Koppen climatic zones and altitude if they are to be used in tropical regions

Focus on making suggestions that are appropriate for raising small animals given the supplies that are available within the region that is being targeted. There is nothing more frustrating than hearing an expert recommend ideas such as micro irrigation when the supplies are not available with the region he/she is targeting.

Provide experts who know principles of Business Process ReEngineering so that the FAO can provide best business practices to their recommendations

Best wishes.

## Herbert Iko Afe, Université d'Abomey Calavi, Benin

Original contribution in French

Chers participants,

En Afrique surtout en Afrique de l'Ouest, la pauvreté et l'insécurité alimentaires sont deux maux qui frappent la population de ces pays. L'agriculture occupe une place importante dans l'économie de ces pays dont les populations sont pour la plupart analphabète. Dans le but d'opiner sur les questions importantes qui entrent dans le cadre de cette discussion du fsnforum, mon point de vue se résume comme suit :

1- les ménages qui ont un accès réduit aux ressources productives peuvent sortir de l'extrême pauvreté grâce à l'agriculture en se mettant ensemble dans des associations ou des coopératives afin de pouvoir non seulement s'aider mutuellement (Faire des tontines, d’échanges de produits agricoles) ou pour solliciter des crédits auprès des institutions de micro finances (IMF) agricoles. Par ailleurs l'Etat doit jouer sa partition en rendant ces institutions (IMF ou banques) plus proches de ces populations agricoles à travers des politiques dynamiques et un accompagnement de ces acteurs. Ces IMF doivent aussi réduire les procédures administratives afin de faciliter l’accès à l’heure service.

2- Une gestion plus durable des ressources naturelles dans le but de soutenir l'éradication de l'extrême pauvreté permettrait une pérennisation de ces ressources au profit de la génération future mais aussi un renouvellement adéquat de ces ressources dans le temps. En effet, en prenant l'exemple de la pêche certaines pratiques traditionnelles de pêche empêchent les petits poissons d'atteindre la maturité et de se reproduire, ce qui pourrait entrainer la disparition de ces ressources aquatiques dans certains cours d’eau, certaines lagunes etc. Ainsi une meilleure utilisation de ces ressources assurerait leur croissance dans le temps au profit de la génération présente et de la génération future.

3- La production agricole, les ressources telles que le poisson, les forêts et le bétail constituent à divers niveaux des chaînes de valeurs. Si les plus pauvres n'arrivent pas à produire ces ressources pour faute de moyens, ils peuvent se greffer à d'autres étapes de ces activités pour gagner un peu de sous, puisque qui dit chaîne de valeur dit plusieurs étapes (production, commercialisation, transformation primaire, transformation secondaire, conditionnement, vente etc). Certaines femmes des pays africains tels que le Bénin deviennent des mareyeuses de poisson au niveau des ports de pêche par ex afin de gagner leur vie.

4- Les politiques nécessaires pour aborder les questions liées à la sécurité alimentaire et à l'éradication de l'extrême pauvreté dans les zones rurales sont d’ordre institutionnel, agricole. En effet il faudra trouver un système facilitant l’accès aux crédits agricoles, informer et former les petits producteurs sur l’importance de se mettre ensemble, les politiques agricoles axées sur l’accès à de nouveaux marchés agricoles et une garantie des ventes de produits agricoles même avant leur production. En outre les politiques qui visent l’autonomisation de la femme participeraient davantage à l’éradication de la pauvreté dans les zones rurales au vu de l’importance du rôle que jouent les femmes dans ces zones.

**English translation**

Dear Participants

In Africa and in particular in West Africa, poverty and food insecurity are two evils that afflict the population of these countries. Agriculture occupies an important place in the economy of these countries whose population is mainly illiterate. With the aim of giving an opinion on the important questions that fall within the framework of the discussion of the FSN Forum, my point of view can be summarized as:

1- Households that have limited access to productive resources can emerge from extreme poverty thanks to agriculture by getting together in associations or cooperatives so they can help each other (setting up tontines, exchanges of agricultural products) or in order to request credit from agricultural micro finance institutions (MFI). Moreover, the Estate must play its part by bringing these institutions (MFI or banks) closer to the farming population through dynamic policies and by maintaining contacts with these actors. These MFI must also reduce the administrative procedures in order to facilitate access to their service.

2- A more sustainable management of natural resources in pursuit of the eradication of extreme poverty would allow for these resources to become perennial for the benefit of future generations but also for a sufficient renewal of these resources over time. Actually, taking the example of fishing, certain traditional practices do not allow the baby fish to reach maturity and reproduce, which can result in the disappearance of these aquatic resources from some water systems and lagoons, etc.  It follows that a better use of these resources would ensure their growth over time to the benefit of present and future generations.

3- Agricultural production, resources such as fish, forests and livestock, are at various levels part of the value chains. If the poorest of the poor cannot produce these resources for lack of means, they could get involved in other stages of these activities to earn some cash, because talking about a value chain implies talking of different stages (production, marketing, primary transformation, secondary transformation, conditioning, sales, etc.). Some women in African countries, such as Benin, become the wholesale fish merchants par excellence at fishing ports in order to earn their living.

4- The necessary policies to approach the questions related to food security and eradication of extreme poverty in rural areas are institutional and agricultural in nature. Indeed, it is necessary to find a system that facilitates access to agricultural credit, informs and trains small producers on how important it is to work together, designs agricultural policies based on access to new agricultural markets and provides a guarantee of sales of farming products even before their production. Furthermore, policies which envisage women´s autonomy will contribute favorably to the eradication of poverty in rural zones given the importance of the role that women play in these areas

## Bill Butterworth, Land Research Ltd, United Kingdom

In the now-developed West, the change from subsistence farming to surplus production was dramatically accelerated by Harry Ferguson’s development of a three point linkage giving weight transfer – cultivations, weed control and husbandry greatly improved, land was released from feeding horses and labour reduced and progressively made available to the urban economy.

Today, in developing farm production in poor countries, manufactured fertiliser costs are high and, because of energy costs, will not get lower in time. Making fertiliser by composting urban wastes is an available technology which provides nutrients, reduces cultivation costs, reduces irrigation need, and progressively lowers crop diseases. It also provides a chargeable service to the urban economy. This “closed loop” economy sees urban wastes as a resource which can provide that trigger for rapid change and development, and is described in detail in “Survival; sustainable energy, wastes, shale gas and the land” by Bill Butterworth and available free for download at Amazon

## Lindsay Campbell, University of Sydney, Australia

The extreme poor lack physical and educational resources. Assuming they have access to land, then microcredit schemes to purchase quality seed, fertilizers if required, etc. can be very useful. At the same time, some limited distribution of food may be necessary so that they can work productively until crops, pastures for livestock, poultry, fish ponds are producing. Too often, the poor are weak simply from malnutition.

In many cases, human or animal parasites limit their productivity. This requires intervention.

Once crops etc are produced, then the barriers to market must be addressed including transport and post-harvest losses which are often considerable. Development of simple drying techniques of grain will reduce markedly spoilage from fungi. On the other hand, rapid transport is required for perishable items eg leafy vegetables, meat, fish.

In any project, involvement of the locals, including finding a local champion, is essential in all phases of the project from design to implementation to conclusion in handing it over totally to locals.

It would be worthwhile examining some of the ACIAR [Australian Centre for International Agricultural Reseach] projects in say Vietnam, Cambodia and Africa. Also, Dr Peter Carberry, now Deputy Director General, ICRISAT, has done some very interesting work in Africa including Buko Faso.

## Deepak Sharma, VAAGDHARA, India

The organic linkages between hunger and poverty are well established, the link can further be extended to limited access to physical resources, particularly good cropping land and irrigation water. We at VAAGDHARA also used to consider this as quite applicable reasons behind higher degree of malnutrition among small and marginal farmers in indigenous tribal community in Banswara district of Rajasthan, India. It was participation in LANSA supported action research program which helped us to extend our notion that it is also a play of lack of knowledge, efficient utilization of resources as per their capacity, and also following the practice of "nutrient flow in a cyclic manner.

This research program helped us to work with 600 indigenous small and marginal farmer families (30 groups of 20 families each) and move them above in reducing hunger (both in terms of quantity and quality). In this program we utilised approach of "Participatory learning and Action" to facilitate thinking process of participating groups and families. The process only helped to change mind set of these small and marginal farmers from the dilemma of farming for market or farming for family and to be specific farming for nutrition. The yearlong process of PLA focusing on nutrition sensitive farming system worked on the aspects of

Resource assessment and planning according to existing capacity of resources (land type, soil type, moisture availability etc.)

Improved "food diversity" from cultivated only to collected, cultivated and processed

Efficient utilisation of family resources, where importance was also given to so called wastelands as forest food patches.

Our experience in this learning events is that Nutrition Sensitive Farming System approach can help reducing hunger, even hidden hunger (low nutrient intake) to great extent and slowly-slowly help them move out of clutch of "nutrient poverty" may not be "currency poverty". It will demand for changing attitude that best nutrition come from purchased food only, that too with higher cost food items. This is behaviour change process also thus group approach yields better as it gives space for reflection to participating families as well as facilitators.

VAAGDHARA

## Mou Rani Sarker, International Rice Research Institute, Bangladesh

In developing countries the poor farmers do Agriculture. To eradicate extreme poverty need to promote agricultural value chain from production to marketing.

Countries like Bangladesh the larger share of agricultural production goes to middleman. Smallholder farmers need to better engage with agricultural value chains for improving their living standards. The farmers of Bangladesh are frequently affected by various climate shocks, which also affect their livelihoods. This is one of the major reason for increasing rural to urban migration. The research centers focuses their research area to create various stress-tolerant rice varieties that can withstand on climate change. But still the adoption as well as diffusion rate is very low compare to varity release. So, only development of varieties is not enough, attention also need to increase the adoption rate among the farmers to reduce poverty.

Another main issue, young generation don’t want to involve in this sector for their livelihood. Engaging them in agriculture or agribusiness activity will a good initiative for economic growth and reduce poverty.

## Marc van der Sterren, Farming Africa, Netherlands

**Eradicating extreme poverty. What is the role of agriculture?**

The question that precedes the question in the headline of this topic is: ‘what is the relation with agriculture?’ And that relation is as close as can be. Because extreme poverty goes together with hunger. With a shortage of food and a shortage of means to buy food. And all food comes from agriculture.

Sounds very simple, but what is very important to realize is that [about 80 percent of the world’s hungry people depend on some sort of farming](http://ecsw.org/files/global/world-hunger/news/who-are-the-hungry.pdf).

You ask: What is the role of agriculture? The answer seems simple: improve agriculture on the place where the hungry people are. That must be possible because the vast majority of the hungry people are farmers!

So let’s go to your questions:

1. Under what conditions can agriculture succeed in lifting people out of extreme poverty?

As I said: 80 percent live in the countryside. If they don’t have access, the land is not far away. Providing them access to a small piece of land should not be a big problem. What those people need is empowerment, so they can stand up for themselves. And information about good agricultural practices. They need independent information about modern farming technologies, but also about the benefits of traditional crops and systems.

2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?

Agriculture and environment are directly related to each other. Agriculture directly influences climate and environment, as the climate influences farming. Sustainable agriculture is very important, not only for the benefit of the environment and the climate but also on a socio-economic level.

A modern highly efficient agricultural system seems very attractive because of the huge increase in production that can be obtained in a short amount of time. This system, however, needs a lot of inputs like fertilizers and chemicals for crop production. This inflicts with the environment which brings additional costs in the long term that are not calculated in the revenues.

On the other hand, those inputs cost a lot of money. Subsistence farmers, especially those who are already poor, do not have the means for those inputs. Loans are a short-term solution, which, however, brings them in a dependent situation. Farming becomes a business full of economic risks, which also can be bought off with insurances, which make the business even more costly and risky.

The best way of improving farming is taking the farmer serious and provide him with specific advice and information about increasing yields in the most appropriate way.

3. Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?

The poor without any possibility to be engaged in farming might find employment in related branches, like processing food, packaging, mechanical maintenance etcetera. When the economy in rural area’s increase, everyone will benefit. Even businesses that are not directly related to agriculture, like supermarkets, hairdressers or administration offices.

4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?

Empowerment of smallholder family farmers through providing them access to independent information. Those farmers often are not educated, which doesn’t mean they can’t be wise. They know exactly what is important for them and what can be changed to improve their specific situation. Listen to them. Provide them with knowledge they can use.

5. Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?

Many. I met many smallholder farmers in rural area’s and many demonstration farms who provide services for farmers that take them out of poverty.

Please read my essay [smarterfarmers.org](http://smarterfarmers.org/). With the empowerment of smallholder family farmers through providing them access to independent information we can end hunger, reach all 17 Sustainable Development Goals and Africa can become the world’s breadbasket.

It’s not difficult. It just needs a lot of courage. Courage mainly from governments and governmental institutions to take the right decisions. And to not be afraid of providing the poor with knowledge and influence that empowers them.

## Ikenna Ejiba, University of Ibadan, Nigeria

Poor rural households have limited access to productive resources and are most times economically disenfranchised. These groups need more robust interventions to allow for a sustainable living. Agriculture and agricultural interventions will only succeed in a safe, secure, and conflict free environment. Climate change induced herder migration resulting in conflict as is the case in Nigeria and other parts of the world will deprive households access to land and other natural resources thereby sustaining the spate of extreme poverty in the areas so affected.

Therefore as stated earlier, broader food security policies and interventions are required at all levels of government, to capture the effects of climate change, including it's potential negative fallouts like induced migration and conflict. This is essential in achieving food security and reducing extreme poverty especially in rural areas.

## David Odili, Square Impact Nigeria, Nigeria

*1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.*

Agriculture in rural Africa bears striking similitude to the feudal system, where those with access to productive resources (land particularly) hire the services of those without access.

In some measure therefore, whatever is done to support those with access to productive resources will inevitably impact their workers who have no access to productive resources. However, since such laborers are in the minority and most of them nomadic, they usually get peanuts for their labors. Having a Union to demand for fairer wages could help them break free from the extreme poverty.

Also, if smallholder farmers get better prices for their products, it will impact the bottomline. So smallholder farmer cooperatives are suggested to press for fairer market prices and to check the activities of middlemen who might engage in sharp practices to shortchange smallholders.

Moreover, given the success of CCT in the Americas, agricultural conditions in addition to the three basic Human Development Indicators may be attached to Cash Transfers in Africa. However, since the basic input for agriculture is land (which is capital intensive), the governments of African nations have to be involved and land could be "given' to the extreme poor under what we may yet call Conditional Land Transfer (CLT).

Painfully, one of the greatest challenges to CCT or CLT in these parts is data. Therefore, my team and I are lobbying the government of our state towards the creation of a Statistics Bureau.

Finally, urban poverty has soared in my country over the last three years and shortly, we'll be proposing Conditional Property/Land Transfer to the government - a project in agriculture, located in the urban fringes, targeting the urban poor.

Thanks FAO, for all you do!

## Mahtab S.Bamji, Dangoria Charitable Trust, India

The bane of extreme poverty is extreme malnutrition and consequently reduced productivity and earning capacity. Hence, efforts to increase food and nutrition security at individual, household and village ( local) level by leveraging agriculture to nutrition will also impact productivity and poverty.

To stimulate the debate, we would be grateful if you could share your experience and views on the questions below:

1. **Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.**

Agriculture is one of the most dangerous professions. The farmer is damned if he produces less and damned if he produces more resulting in glut and price crash. More emphasis on research on making farming resource- efficient and strong technological support to the famers in terms of planning cropping pattern, use of resources, and technological intervention etc along with behavioural change communication are needed to maximise output input ratio. The difference in productivity of China Vs India is a case in point.

 Promotion of alternative livestock and forest-based activities, besides artisanal and other skills among those with limited access to productive resource is very necessary..

1. **What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?**

Efficient natural resource management is extremely important to ensure cost-effective production. This involves innovative research and technology transfer

1. **Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?**

Development of non-farm skills like, handicraft and artisanal skills can be very helpful in employment generation. There is considerable demand but paucity of skilled artisans in rural as well as urban areas.

1. **What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?**
2. With almost 50% of the population dependent on agriculture for livelihood, its importance should be recognised while making budgetary allocations
3. Importance of agriculture for food and nutrition security besides income and export should be realised. Agriculture should be nutritionally sensitive besides being environmentally sustainable. This needs change of mindset and research orientation, and technology transfer.
4. While free water and power result in wastage some support in terms of crop insurance is needed as safety net. Some subsidy in terms of fertilisers and pesticides, drip irrigation etc may be needed with proper guidance about their use and administrative efficiency.
5. There should be a mechanism for continuing education of extension workers to update their knowledge and skills. This will facilitate more effective technology transfer through extension workers who interact with the farmers
6. Governments should not be misled by misguided opposition to technologies like GM crops. Health and environmental safety can be ensured through appropriate legislation. At least field trials should be allowed.
7. Agriculture cannot be profitable if there is 30-40% wastage of farm produce in India. Proper storage, cold chain and food processing should receive high priority. Food processing can also generate employment.
8. To make agriculture more scientific, youth should be trained through setting up of Agriculture training institutes.
9. **Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?**

 For the past several years we have been working towards leveraging agriculture for nutrition security, while being mindful of better environment. We (The Dangoria Charitable Trust, Hyderabad, India) are promoting crop diversification from water guzzling crops like paddy and sugar cane to cultivation of micronutrient-rich, vegetables and fruits, millets and legumes in villages of the Medak district of the state of Telangana in India . This approach would improve dietary access to micronutrients (vitamins and minerals) which are deficient in Indian diets (hidden hunger), besides saving water. While we do not go totally organic, we are introducing green methods of farming like vermicomposting, botanical pesticides and methods of water conservation. We have also introduced backyard poultry with high egg –yielding birds.

Household diet surveys show that while homestead (near the home or in the farm) gardening increases the frequency and per capita quantity of consumption of green leafy vegetables; despite nutrition education, 25-50% of other vegetables are sold. Home-grown vegetables have replaced what was purchased from the market. As we have said in one of our publications “Economic compulsion outweighs nutritional wisdom”. However, homestead gardening does protect against reduction in vegetables consumption due to high market price. Back-yard poultry with high egg yielding breeds significantly increases household egg consumption. Esp since only few birds are given. Families buy 3 birds and one male or female bird is given free as incentive.

Combination of strategies to reduce the input cost with greater productivity of agriculture, and alternative livelihood opportunities through skill development are very important.

## Deborah Muricho, University of Nairobi, Kenya

In many countries in Sub-Saharan Africa, agriculture has the potential of bringing about economic growth, overcoming poverty, and enhancing food security. This is because it employs most of the labor, produces output used as food and raw materials for industries, earns foreign exchange through exports and can generate savings which can be invested in other sectors of the economy. Of the total population of Sub-Saharan Africa, over 60% live in rural areas and more than 90% of rural people in these regions depend on agriculture for their livelihoods. Improving the productivity, profitability, and sustainability of smallholder farming is therefore the main pathway out of poverty in using agriculture for development. Poverty is a key characteristic of traditional agriculture which is also the predominant form of agriculture in LDCs. The major causes of poverty include inadequate access to land and capital for the majority of the farmers and technological backwardness.

## Peterson Kato Kikomeko, Kyambogo University, Uganda

In the context of limited access to productive resources:

* The little agricultural inputs that can be accessed should be of good quality so that farmers can obtain higher yields from small cultivated areas
* Provision of agricultural inputs to such farmers at subsidized rates by the government can be of help
* Adequate government regulation to ensure that agricultural inputs (seeds, pesticides, fertilizers) are of high quality can be of help
* Need for adequate agricultural extension services through which farmers can receive different forms of support

## Joseph Bagyaraj, Centre for Natural Biological Resources and Community Development (CNBRCD), India

1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.

People doing agriculture, especially in developing countries, should work hard. I see that many times agriculturists depend on government for subsidies, loans, etc. Farmer toil in the field to grow crops, but he is often offered a small price by the middle man (who is between the grower and consumer) who pockets a large junk of money doing nothing. Government should take action to minimize this anomaly so that the farmer gets a better price through co-operative government marketing stores where the farmer can deliver his goods without the middle man

2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?

Encouraging farmers to adopt organic farming wherein they can use natural resources like compost, green manures, biofertilizers and biocontrol agents which are cost effective and environment friendly compared to the use of chemical fertilizers and pesticides.

3. Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?

Those who do not have access to their own land, livestock, fishery, etc. can work for wages and earn their livelihood.

4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?

One of the policy that can be taken by the government is mentioned in the answer to question no 1. Further free schooling can be given to the children of poor farmers, along with free mid-day meal.

5. Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?

Very few states in India have been declared as organic agriculture states wherein no chemical fertilizers and pesticides are used. Further in some places government/ NGO's provide free mid-day meal to school children in remote areas.

## Frank van Kesteren, INCLUDE knowledge platform, Netherlands

The following contribution is a translation of the article 'Sociale protectie maakt Afrikaanse boeren niet lui, maar juist productiever' published in Dutch newspaper [*de Volkskrant*](https://www.volkskrant.nl/kijkverder/2018/voedselzaak/ideeen/sociale-protectie-maakt-afrikaanse-boeren-niet-lui-maar-juist-productiever/) on 25 March 2018:

**No protection without production**

Both in Africa and in the West, policy makers are aware that the focus in the coming years must lie on the African agricultural sector. Investment in agriculture must help millions of unemployed young people find a job, export and generate economic growth and meet the high demand for food, especially in areas hit hard by climate change. Billions are therefore being allocated to increase the productivity of African agriculture.

This is a good objective, but the preconditions for such investments are not always adequate. For the same reason that a child will not automatically improve its learning from building a school alone, the African farmer will not simply produce more. One of the important preconditions for improved productivity is having social protection: in order to be able to invest in a successful business, a farmer must not only receive the support to build this business, but also have a social safety net in hard times.

**The neglected child**

Unfortunately, at the moment, little attention is paid to the importance of social protection in Dutch foreign policy. It is no coincidence that this happens at a time when skepticism about our own social security system has also increased in the Netherlands. It would cause too much dependency, make people lazy and distract attention from what someone would actually help: a job.

In the African countryside, however, the opposite is true. Families receive cash transfers in many countries. These are regular payments from governments or NGOs that can take place in different forms. They can be unconditional and universal (this is what we call a 'basic income' in the Netherlands), but also targeted to certain groups (women, refugees, etc.) or under conditions that they are spent in a certain way (on health care for example).

Contrary to what Dutch cynicism suggests, cash transfers seem to lead to more productivity among farmers. A publication by the Food and Agriculture Organization of the United Nations (FAO) and UNICEF in 2016 about the impact of cash transfers in 7 African countries gave many skeptics reason to optimism: instead of laziness, cash transfers ensure increased production and investments in other seeds, manure and staff on the farm. The money is not spent on the wrong things at all: instead of an increased consumption of alcohol and tobacco, cash transfers appear to lead to more registrations in schools and increased spending on clothing and shoes.

Moreover, it turned out that the work, in particular among small farmers, was on average 36 percent more productive. The fact that social protection has become a neglected child is therefore undesirable from the perspective of food security, because cash transfers can provide the much needed boost that farmers need to increase their productivity.

**What we can learn from Ethiopia**

One of the social protection programs that still receives Dutch support is the Productive Safety Net Program (PSNP) in Ethiopia, part of the World Food Program of the United Nations and the national Food Security Program of Ethiopia. Approximately 8 million Ethiopians in vulnerable areas regularly receive money and food, during which the aid can be increased in periods of food shortages. As part of this, participants participate in agricultural, water and infrastructure projects, intended not only to provide households with the protection mentioned above, but also to give participants the opportunity to build something themselves. The supplies of food and water that are provided in times of need are built up by the participants throughout the year. This program therefore works simultaneously as a trampoline and safety net. Thanks to the trampoline, a farmer gets the opportunity to invest and increase his or her productivity, and thanks to the safety net he will receive support as soon as, for example, harvests fail thanks to El Niño in recent years.

Since the introduction of the PSNP in 2005, good results have generally been achieved. For example, in 2011 the World Bank evaluation showed that participating families have an average of 29 percent fewer food shortages and half a million people have climbed out of poverty in the long term. The combination of giving money and protection therefore appears to be effective, although the results are very different. For example, in areas with a relatively high drought and / or serious poverty, the impact of the program is smaller.

Through the INCLUDE knowledge platform, research is being conducted on how groups and areas requiring additional attention can be included in the PSNP. In general, INCLUDE also pays attention to two main questions about social protection programs in Africa: how can they be designed and implemented as effectively and affordably as possible, and how can the poorest people be best targeted?

**Tailor-made policies**

On this last question, the research into the PSNP offers an important, often forgotten, conclusion: that the poorest, most vulnerable people need a tailor-made program to escape poverty. Investment fund or cash transfers alone have little value for them. A disease case in the family, a lack of skills to start a productive business, or simply the fear of losing everything in a climate disaster; these are just some possible explanations why such a sum of money will not be used to invest, but only for survival.

In recent years, therefore, more and more attention has been paid to the many-sided programs that are needed to lift poor families out of poverty: the so-called 'graduation programs'. These programs integrate cash transfers, education, support to go to work and personal guidance in one package, to ensure that participants not only get out of poverty, but also do not fall back into it. In 2015, a group of leading development economists led by Abhijit Banerjee published an evaluation of programs in six countries that left no room for doubt: an integrated program requires substantial financial investments and a lot of patience, but is by far the most effective method for sustainably alleviating poverty.

Fortunately, this realization is taking place in Africa itself: in recent decades, in many African countries, with the support of international donors, social protection systems have been developed by national governments. Following success in Ethiopia, productive safety net programs have now also been introduced in countries such as Kenya and Tanzania. And many countries invest in, among other things, national pension systems, maternity care coverage and also small cash transfers to households.

Usually, however, these systems still have limited resources and scope. It is therefore important to take up the gauntlet and, in addition to direct investments in agricultural projects, also ensure that social protection mechanisms are in place to achieve agricultural development. The billions spent on African agriculture in the coming years will receive the highest return as soon as they are accompanied by investments in social protection programs. At international institutions such as the World Bank, the FAO and UNICEF, this awareness has begun to subside. It is now up to the Netherlands to abandon its skepticism and follow this policy trend. No production without protection.

## John Ede, Ohaha Family Foundation, Nigeria

In rural communities in Nigeria, security of lives and property is critical to agricultural production so that if the people are safe to go to their farms and produce food items, they can consume and sale off the excesses while also saving some for the next season's production. Failure to provide a safe production environment, people are not able to farm, leading to food shortage, hunger, and a decline into extreme poverty.

Working with rural people in Nigeria who feed themselves from the food they produce and also make the excesses available for sale so that the proceeds from such sale can help meet their domestic needs. And a good number of people in Waring communities are suffering and are going to suffer poverty, because of food production declines, and how can they escape extreme poverty when farming is all they know and do?

Painfully, crises destroy the natural resources, but if we can work more on building peace among communities and ethnic groups in Nigeria, where they need each other farmers need herders for natural manures, and herders need the farmers for nutritious crops and feed for their animals.

I know that the government of Nigeria has developed policies to help with agricultural practices, but the main concern is translations into practice, unfortunately, most of these policies will not work, because they were developed by experts design from academic knowledge as against field experiences, and real time updated needs of the people and not by the people. To make is truely worth practicing, we need to make the people design what works for them, and have the people lead the process.

In Northern Nigeria where you have different kinds of crisis, terrorism in the NE, cattle rustling in NW and farmers/herders clashes in the NC, these concerns attack the main food production region of the country, and sadly, hunger and extreme poverty looms, and we need to take urgent steps to save the people and the region from extreme poverty NOW.

##  Ana Paula de la O Campos, FAO, Italy – facilitator

Dear members of the forum,

Thank you very much for so many contributions! They will be very helpful as we continue to develop the framework for our work on extreme poverty.

You have highlighted a number of important aspects that we will need to take into account for FAO's work to also reach the poorest of the poor and prevent that more rural people fall deeper in poverty:

- The need to develop more effective strategies and programmes on mitigation and adaptation that are sensitive to the roles of small scale producers and their needs. "Think global but act local", maximizing local resources, knowledge. **As a follow up, I would like to ask the members of the forum to discuss on how we could move this forwards more effectively, in ways that are scalable and sustainable, particularly, on how to bring the environmental and social sectors together.**

- Strengthening the agriculture and nutrition linkage. Good nutrition is fundamental for productivity, in any sector, but it also fosters better education and higher incomes for younger generations. It is important to look at the effectiveness of our current food systems to foster good nutrition, particularly that of the poor and the poorest. Where agroclimatic conditions allow, year-round vegetable production is a good option for bringing more micronutrients to the table.

- We are not fostering the agriculture sector for poverty reduction enough. Investments in agriculture continue to be below what is needed in order to tap on opportunities that exist in the sector, including organic agriculture (as demand for healthier foods from cities arise) as well as for sustainable production to foster climate change mitigation (CSA, agroecology). Resources are needed to foster and disseminate local technologies, including farmer to farmer exchanges.

- The importance of revitalizing rural areas and making the agricultural sector more attractive to the youth. Using technologies to disseminate information and knowledge (example of youtube videos) that are more specific to local needs. Creating market linkages while also helping develop territorial markets for more high quality food availability at territorial level.

As a follow up to the discussion, I would like to invite the members to further discuss and express their opinions on the following points:

**- I would like to know more about the potential impact of preventing food loss and waste in poverty reduction: do you have any examples?**

**- Overall, while eradicating extreme poverty will require multisectoral approaches, how could agriculture be better integrated in poverty reduction strategies? Often these strategies have a weak rural focus, while most of the poor live in rural areas. How can the role of agriculture be more focused on poverty reduction and reach the poorest? Any suggestions?**

**- And the other way around, how can agricultural strategies be more inclusive of the poorest? What mechanisms do we have in the sector to better identify and understand the needs of this population and increase their lack of productive assets?**

## Nurah Oseni, Nigerian Institute for Oil Palm Research, Nigeria

Most of the time hunger leads to poverty. Extreme hunger is not due to food scarcity but as a result of food loss especially post harvest food loss.

To ensure zero hunger in Africa, Good Manufacturing Practices (GMP) must be taught at all levels. Sensitization campaign of GMP is key to zero hunger. Most of the time more than 70% of fruits and vegetables are lost as a result of bruising during harvesting.

Secondly, intensive research dissemination on alternative means pf preserving perishable foods outside refrigeration is required as refrigeration which is the  current practice of preserving food in Africa accounts for the largest cause of  food waste due to  inconsistent power supply.

## Aklilu Nigussie, Ethiopian Institutes of Agricultural Research, Ethiopia (second contribution)

For the second question:-

2. If sustainable natural resource management is; bringing together the system of the universe directly or indirectly to contribute for productivity and moderating of, land use planning, water management, biodiversity conservation, and innovating the sustainability of industries like agriculture, mining, tourism, fisheries and forestry…for eco-system friendly use; then this can create directly an incremental productivity with healthy food system and without environmental calamities. So; this can have an opportunity to diversified engagement of participation and access to resources that can generate income. Not only income but also nutritive contribution to households and livelihood diversification can possibly applied at small scale level since the logical behind natural resource management can have a positive effect on rain fed agriculture, irrigation agriculture and supplemental agriculture. Even it makes ease things to construct hillside agricultural production (with fruit tree) with methodological application forest fruit agricultural system with dual benefits.

## Kuruppacharil V. Peter, Kerala Agricultural University, India

Agriculture is still a gamble at the mercy of rain God, government policy of export and import, harvest and post harvest losses, incidences of invasive pests and diseases and above all highly fluctuating and producer-farmer unfriendly prices especially fruits and vegetables.

One month back tomato prices in India fluctuated Rs 5-10/kg forcing farmers to abandon the produce in the street. So are the cases of onion, multiplier onion, garlic and potato.

Unlike in Israel where packinghouses and cool chambers are parts of collective farms India does not have such facilities. If the present post-harvest losses ranging 20-40% are reduced, the availability will go up without many inputs. Value addition and products development are getting attention. The earlier wasted cashew apple is now basic raw material for more than 25 products-juices, syrup, candy, fermented juices, wines etc.

With globalization of Indian economy, urbanization and intra and inter country migration, new crops and new food recipes are in the market. Purchasing power of people are on the rise indicating a bright future to protected cultivation with assured buy back arrangement.

## Deepak Sharma, VAAGDHARA, India

Dear Ana and all other friends of the forum,

No doubt that talking about agriculture is a tricky issue, because it is not only an issue of production enhancement or sustainability, but it is an issue which touches and integrate with all other dimensions of society but not only cash income. It is since agriculture has started that it is viewed from cash generation point of view; how much is invested and how much is harvested, in terms of cash generated, but not nutrient transformed from elemental form to edible form.

Production is weighed on the basis of per hectare of income generated, how much it has added to GDP, therefore definitely farmers become part of race of how much they have earned from a particularly piece of land, but not how much land can be useful to feed their family members. This whole mode of thinking ultimately result in limited production diversity of farm operations, thus increasing risks of wasting production, it has provided, but not the cash it should have brought to the family. This results the situations where farmers throw away all their hard earned products on the road. Therefore, there are many parallel fronts that interventions need to address.

1. At Small and marginal farmers level, there is need of large-scale awareness and motivation to adapt farming with the concept of "Family first" for nutrition/food security. This can help in creating space for providing adaptation opportunities to small-scale producers and fulfil their food security needs.

2. At policy level larger land-improvement need to be brought into arena of state responsibility to keep land productive, merely distribution of soil-health cards, those too without proper analysis will not result in true benefits.

3. Agriculture is not an industry where one looks from the angle of profitability, rather it is a service sector, where production of food (nutrition) is important, where it cost you high. Thus applying angle of input-output may be utilised to decide upon minimum price, but not the deciding factor for whether to continue with cultivation or to join labour force in cities. This has resulted in situation where a large number of farms remains fallow simple because their owners do not consider cultivating them as economic, but they do not find it economic to go to their farms economic their salaries are much higher. Therefore this demands for policy interventions that in any villages or any category of land, owned by any one, if remain fallow, would have to give "Food security" penalty to village/GP where it belongs to. I would request FAO to institute consultations on "How we can ensure use of all kind of land for bio-mass generation to utmost capacity of them and how to maintain productivity.

4. There is need to review policies of land use conversion from "agriculture to other non-biological production uses. In India presently if some one wants to convert land category from agriculture to no-agriculture, it is criminal way where you keep land idle for three years, show no production and then it is converted to non-agriculture to other category land, I am sure all other countries might be having similar policies that facilitate easy conversion of agriculture land to non-agriculture land. This has to be seen from the angle of "social crime" where a productive land is being wasted. I am not a policy expert on land issues, but only thing I would like to bring it to the notice that soil is the backbone of agriculture and in turn food security. Thus, land has to be seen from the production capacity of soil and all policies and rules and regulations are to be designed to promote production not to stop production. This can help in local and global actions to optimise resources utilisation and knowledge.

Here FAO has role to institute studies on how different policies are working against or adding to better utilization towards agriculture production and in-turn food security. What are the policy changes required immediately to check on land grabbing boon.

Recently we have worked in one research program, where we focused on improving food security through interventions, and worked with 600 families, to optimise use of time (crop seasons) , space (productive land of different categories) and resources (rains, energy, seed, soil). The focus was on how to diversify food production within village itself and reduce dependency on outside world. There is need to work more on awareness, collective actions and policy aspects so as to improve production capacity and production optimization at farm level.

This is urgent to "strengthening the agriculture and nutrition linkage, through diversification in food habits, not necessary new varieties but reviving the traditional ones. It can help in adding to good nutrition to soil and food plates both. It will demand for comprehensive program of education on production-food security linkage to younger generations. This education has to follow "community learning approach and immediately increasing number of institutes for knowledge building and imparting to wider community in the field food security, nutrition and agriculture.

We have to note that agriculture and nutrition are the fields where there is a wide gap between the professionally educated and practitioners, they hardly interact at grass roots level, there is need to revive traditional platforms of "Gram-Copal" which were traditional platforms of knowledge building and transformation from one generation to other.

This will also provide glass to judge effectiveness of our present system of farming and food (nutrition sensitive farming system) and ultimately foster better nutrition, particularly that of the poor and the poorest. Year-round availability of vegetable in different agro-climatic conditions is not a big challenge, but similar products for all the communities is definitely a challenge. Each agro-climatic system has its own food system, which can provide scope for it, but we have to recognise and respect those systems, to bring low-cost micronutrients.

FAO can need to facilitate government to recognize importance of farmers, as nutrition service providers, thus providing them royalty for cultivating rather than considering them as liabilities.

## Hans Schaltenbrand, Agricultural/Forestry/Food Science Mg. University, Switzerland

Dear members of this discussion forum, in brief: it is political will and policy that matters!

The questions of the moderators focus on extreme forms of poverty where people do not have access to land or required natural resources. Of course there is large knowledge and experience in this ongoing debate on how to reduce poverty, e.g. by providing access to resources and markets, advisory services and all kinds of smart agricultural technologies and social networking. However, EXTREME POVERTY can only be eradicated with a strong political will by a nation’s society and related laws and policies, helping eradicate this inhumanity. Improvement only happens with smart provision of subsidies in many aspects of daily life. One example INDIA has shown in September 2013 with its Food Security Bill. Of course there are also critical aspects to be considered, but the overall effect as such is strong and evident.

Since more than one year the NEPAL government has been preparing a similar Right to Food Act, based on article 36 of Nepal’s constitution. Also this example is important and may show future effects. Once respective policy instruments are sanctioned and regulations in place there are hundreds of well-known approaches and methodologies to fully eradicate not only the extreme forms poverty. - But the will to do this political step is essential!

So, I think for this debate it would be very interesting to share learnt lessons from India’s activities, covering the last five years on the basis of its National Food Security Act from 2013.

Who knows more on that? It would also help the interested people in Nepal to go ahead with its own program to fight extreme poverty.

Best wishes, Hans Schaltenbrand, rural development expert

Zurich, Switzerland

## Edward Tanyima, FAO, Uganda

Hi colleagues, thanks you for your contributions on this topic-Eradicating extreme poverty: what is the role of agriculture? Find my contributions to the questions below:

**Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.**

One is said to be in extreme poverty when he is completely deprived of essential and basic needs for him to live. Such a person has very limited access to quality water, food shelter and services such as health and education. Extreme poverty is caused by lack of productive assets, lack of food, poor health, unplanned increased population and poor governance, political and social unrest which causes migration. This situation is a characteristic of many developing countries especially those located in the Sub-Saharan African.

In Uganda specifically where I leave, poverty continue to affect a large section of Uganda’s population. For instance, the national poverty level has increased from 19.7 per cent in the financial year 2012/13 to 21.4 per cent in 2016/2017, yet over 45 % of Uganda’s population remain vulnerable to poverty. This challenge is amplified by the high population of unemployed youth especially those below 30 years who make up to 78% of Ugandan population. The challenge is also magnified by the high refugee influx especially in the Northern and Southern regions. This kind of situation leaves many people in a vulnerable state since most of these people lack productive resources, have limited information and can be easily be won over by any kind of risks related to economics and the natural environment. This situation leaves many people in Uganda in a state extreme poverty a situation which will continue to hinder Uganda’s socio-economic transformation

Many developing economies especially in Africa are agrarian economies where the agricultural sector is the back born of these economies. In Uganda for instance, 72 % of the workforce and 87 % of the working poor are primarily engaged Agriculture sector. The sector also significantly contributes (23.4 %) to the country’s GDP and 76 % of households still earn some income from agricultural production. As envisaged in the situation of Uganda which is not different from other developing economies, many poor and vulnerable rural households mostly rely on agriculture for food and as source of income, therefore investing in interventions aimed at enhancing agricultural productivity, value addition and agro-processing is critical in eradicating extreme poverty.

 It’s however important to note that the role of agriculture can significantly be recognized/ succeed only if Agricultural interventions are designed to address extreme poverty challenge from a social protection perspective. In other words, interventions should be designed to address multiple risks especially those related to economics, social and the natural environment. It is therefore important to create an understanding among policy makers, technical people and implementers from all actors within the social and agricultural sectors the two way relationship between social protection and agriculture.

**What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?**

Agricultural activities in many less developed and poor economies like Uganda depend largely on nature  such as rainfall and biological processes such as crop pollination provided by wind and insects, soil fertility services provided by microorganisms.

This indicates a crucial role of sustainable natural resource management to agricultural development and poverty reduction. Failure to sustainably manage natural resources, may results of loss of biodiversity which may affect biological processes. In addition, loss of green cover and trees may result into climate change which will obviously affects agriculture productivity. This significantly causes food insecurity, reduce incomes and eventually leads to extreme poverty to majority people especially those who entirely dependent on agriculture. For agrarian economies like Uganda where majority people derive their livelihood from agriculture and yet agriculture still depends on nature, the ensuring sustainable natural resource management is key in eradicating extreme poverty.

**Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?**

Yes, not everyone has to be in production, many people/actors can derived livelihood at different nodes of the value chains mentioned above. For instance, in fish, those who do not have access to capture fish and those who cannot afford the high investment required in aquaculture, can be employed in marketing, cleaning and carrying/transportation of fish. In Uganda for instance, due to the high investment required in forests and livestock, many youth are involved in the transportation livestock products like milk while others are engaged forest product business as timber traders/dealers. In fact, studies indicate that actors like traders and processors gain more than producers.

**What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?**

A blend of social protection and agriculture policies of two categories are critical;

1. Policies for increasing production, enhancing markets and business

2. Policies for building resilience of the extremely poor people towards environmental and economic risks

## Donna Rosa, Aidtrepreneurship, USA

We absolutely need more resources devoted to postharvest loss.  We are producing enough food on the planet.  According to the [World Food Preservation Center](http://www.worldfoodpreservationcenter.com/postharvest-losses.html) 95% of resources are spent on food production (enough already!) and only 5% on postharvest preservation, which by the way has a much higher ROI in terms of hunger and malnutrition.  It's staggering.

We must address this from different angles, including postharvest pest control, proper planting, better transportation, low cost effective storage, and market identification/development.   [PICS bags](https://picsnetwork.org/) have been around since the 1980s and have proven to be an elegant, simple, cost effective storage medium for beans and grain.  There are also various solar cold storage solutions such as [Evaptainers](http://www.evaptainers.com/), just to name a couple of examples.

Another topic that doesn't get a lot of attention is the need for low cost basic agricultural equipment to improve efficiency.  [CTI](http://www.compatibletechnology.org/) is an NGO that manufactures small scale, inexpensive processors such as mills, threshers, and grinders that do not use electricity.  Their simple machines make easy work of tasks that usually take long hours to do manually.  And there's a gender component that's also overlooked: most of this work is done by women, and freeing up their time would certainly lead to more food for their families and to sell at market, not to mention better quality of life.

## Andrew Isingoma, Rwanda Agriculture Board, Rwanda

Dear Members, it is excellence to have this opportunity to share about my views on poverty eradication following question by question please see below. NB: THESE QUESTIONS ARE VERY GOOD. First of all, thanks to FAO Staff who have thought about these questions, and if the responses to these questions are put in action, i hope many people can come out of poverty globally:

*1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.*

To hit the point on this question; extreme poverty can be defined as the situation where an individual or a group of individuals are lacking basic need to survive. The primary basic needs are; 1. foods, 2. clothes, 2. shelter, and 4. medication facilities, 5, education facilities. Agricultural productivity resources are; 1. good soils, 2. water (rainfall, lakes, rivers, seas, underground water), 3. forests (natural and artificial forests), 4. animals (mostly insects), 5, ultra-violate rays or sun penetration.

Extreme poverty can be solve once individuals or a group of people have access to the above mentioned basic needs. Once the problem of lack of food is solved it means 98% of poverty is solved already. Developed countries first established good agricultural policies and solved the problem of food, then poverty were solved already. We give out a lot of money to buy food, everybody buys food.

We save money according to food pricing on the market. The government policies on agricultural research and extension have to be strong to meet the goals of food security and food production. Research in agriculture have to be regarded to meet the problems on natural resources like low rainfall and drought. Agricultural scientists (research and extortionist) have to work hard to come up with new cultivars according to climate changes.

*2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?*

Natural resource are the major condition for agricultural production and productivity pathways. Forests are necessary for rainfall cycles and synchronization. There should be good management of forests to avoid land desertification. Natural resources like soils should be well managed to avoid soil erosion and soil degradation this is basic need for agricultural production and other wealth creational facilities and mining management. Lakes and rivers well managed for avoiding drainage and wastage of living creatures etc.

*3. Can those without the opportunities to pursue production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?*

Yes, it is very possible; who are the target group of people mentioned in the second question? i can say, these are people especially living in desert areas, and urban condition; these people can come out of poverty only if they can get food at a very possible low price. How can crops & food be cheap and not expensive? First, this can only be meet once agricultural production is facilitated very well and crop productivity is maximized. Secondly, facilitated agricultural commodities or food distribution is eased.

Thirdly, crops and food taxation should be reduced so that it reaches to the consumers when it is not expensive. Transportation and postharvest facilities made possible, easy distribution, food processing and storage facilities, good preservation (made possible).

*4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?*

A. Agricultural policies: Research and extension policies (the policy of new cultivar development, the policy of cultivar extension), crop production, distribution, storage, postharvest and agricultural commodities handling policies.

B. Animal protection policies: conservation of wild and domestic animal policies, conservation of aquatic animals/inhabitants micro and macro animals policy systems. Insects or natural energy policies

C. Conservation of (forests natural and artificial) policies, these are the major concerns of wealth creation.

D. Exploitation of natural resource policies; fishing policy, mining policy, afforestation policy, deforestation policy, rivers and lakes water usage policies.

E. International knowledge management policies on agriculture capacity projects/ capacity building of human resources management.

*5. Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?*

This is a very good question and am responding as a plant breeder/ crop production department: The production of new crop varieties in drought-affected regions. In Uganda and Rwanda. In My MSc-research study, i had assignment of developing a maize variety in transitional agro-ecological zones of Uganda and succeeded. We developed new varieties of maize, which was doing better than local maize in those regions.

We look at international crop production alliances, specifically for hunger eradication, through training agricultural scientists and crop production policy settings. Example alliance for green revolution in Africa (AGRA), succeeded and still working well in hunger and poverty eradication, hope you know many others.

Rwanda’s economy is built on Agriculture about 98% and is currently rising simply because of strong policies in agriculture and agriculture production by the government. Now, let me look on east Africa at large the region to which i belong, her economy is built on agriculture, if you want to make her rich, please pay attention on her agricultural productivity.

Let me stop here,

Thanks all members

## Damian Sanka, United Republic of Tanzania

Responses on Q1-

Visit them and identify with them available resources and support they need, designs programs based on available resources, plan them to visit other areas for learning but similar locations, Linkages with service providers for boosting their farming

## Chinasa Ikelu, Institute de Mathematique et des Sciences Physiques, Benin

Thank you for the opportunity to contribute to pertinent questions that need addressing in today's world.

Firstly, the conditions that agriculture can succeed in lifting people out of extreme poverty include but not limited to improving price incentives for poor farmers by liberating agricultural trade; improving product markets, bulk exports and high-value items for domestic consumption; widening access to financial services and reducing exposure to uninsured risks; enhancing the performance of producer organizations; promoting innovation through service and technology.

Further, with land and water rapidly becoming scarcer in all regions of the world especially Cape town in South Africa, expanding global and domestic markets; institutional innovations in markets, finance and collective action; resolutions in biotechnology and information technology are all examples of ways of exiting poverty through agriculture.

Thank you once again.

## Zhanhuan Shang, School of Life Sciences, Lanzhou University, China

In the poor regions of the world, the food supply from local land is a big challenge for eradicating extreme poverty. Sometimes, the technique employed are a big limitation for the agricultural production in those regions. For example, some local residents did not know how to produce agricultural food with low-cost technique on their land. At that time, the demonstration of the best techniques was very important to encourage local residents to carry out their agricultural activity as efficiently as possible. Such demonstration need to be carried out over a long period to allow them to deliver confidence and promote local residents to carry out the agricultural activity by themselves initiatively.

For this point, the arid-agricultural team of Lanzhou University (China) carried out field demonstration in Kenya and other African over many years to make sure that plastic film mulch-cropping technique is employed as a low cost, high yielding technique in dry areas.

After that, more and more local residents joined in employing this agricultural model to produce more food from local farmland, leading to an increasing food supply and more people working productively in agriculture (reducing habitual loafers for social stability).

I appeal to international organization to encourage more activities like those that the demonstration carried out in Africa, to encourage local resident to do the farmland work for effective, cost efficient production.

Some more information is from:

<http://www.chinatoday.com.cn/english/society/2015-12/02/content_709109.htm>

<http://en.lzu.edu.cn/content/477.html>

<http://en.lzu.edu.cn/content/492.html>

## Andrew Isingoma, Rwanda Agriculture Board, Rwanda (second contribution)

**SECOND PHASE RESPONSES FOR OTHER 3 QUESTIONS SENT**

**Dear FAO staff these questions are very good.**

**I would like to know more about the potential impact of preventing food loss and waste in poverty reduction: do you have any examples?**

The loss of food produced after many years of labor, inputs invested in production, money, time, capital (machines), is like building a house and after finishing it, you then collapse it down. It is pity many agriculture organizations do not pay attention on food loss. The unseriousness of food loss by many organisation is recognized when looking the following.

**A. The time of harvesting;**many farmers even research organisations harvest their crops when crops are over dried and have sheeled in the field grounds, this mostly happens on pulse crops, over grown fruit plants like bananas ripe in the field and eaten by the animals, pests, and weevils, overdried maize in the field and stem lodged to the field grown and eaten by termites, rats, birds, and other animals, all of these reduce crop yield, hence low overall yield,

leading to few package crop export, import, or intra-crop exchange also leading to few food crop reaching to the final consumer, this leads to high price, then poor people don’t have access

to good food, this brings malnutrition,  resulting to diseases, you pay your salary for food and disease hospitality, this results to the final tragedy extreme poverty, but the real journey starts

from the field. It is exactly like the journey of HIV virus. Examples are many it can take the whole day is i post papers circulating on the media. Preventing food loss is like working for money and you don’t waste your money, rather you keep some in the bank what results after saving??

**B.**Poor transport facilities, no roads, no communication, poor package facilities all those results to loss of food, waste hence poverty.

**C.**Storage facilities is a problem because it causes not only food loss but also affects health, like there is a problem of aflatoxin contamination in grain crops, and oil crops, this causes many liver hepatitis problems  and many death, stomach diseases in infants and many others. The storage losses can cause 100% crop losses and it is obvious.

**- Overall, while eradicating extreme poverty will require multisectoral approaches, how could agriculture be better integrated in poverty reduction strategies? Often these strategies have a weak rural focus, while most of the poor live in rural areas. How can the role of agriculture be more focused on poverty reduction and reach the poorest? Any suggestions?**

This question has many questions, i would like therefore to answer in paragraphs, one paragraph represents one question.

The agriculture will obviously be integrated in poverty eradication due to the fact that, without food without life, no food no life, the saving of currency earnings depend on the market price.

there should be alliance for crop or food productivity to make food available, the level of availability will trigger the advancement of other sectoral areas like finance sectors, many countries give a lot of money to import food, which money could otherwise be used in other disciplines.

Yes, often, strategies are not focusing rural areas, example the policies of many countries don’t put good energy on agricultural in rural areas, the evidence is, how many rural areas have sound irrigation systems, 98% of farmers depend on natural rain, and they have little idea on metrological rain irregularities which always causes famine, and this is the main root causative agent of famine. If you want to eradicate poverty promote food production facilities in rural areas, like irrigation systems, nutritional crops which will boost immune systems, like fruits, vegetables etc.

The projects that promotes farmers working in cooperatives, once in cooperatives it is easy to educate them and every plan will reach farmers easier. Land consolidation will help to grow planned crop according to crop region adaptability and input facilities availability.

**- And the other way around, how can agricultural strategies be more inclusive of the poorest? What mechanisms do we have in the sector to better identify and understand the needs of this population and increase their lack of productive assets?**

The rural sector identification can be seen on how or the farmers preference in that sector, it is mining, afforestation, crop growing, animal rearing and which kind of animals that do better there. What type of crops grown there?, what is its productivity depending on standard productivity ranking?. which is the main cause of that yield reduction?, what kind of seeds preferred? how is research organization work with farmers? if no connection, then, there is no research? what kind of productivity in puts needed? are those inputs available? why not available? is it due to the poor government policy? Any remedy?

## Siosiua Halavatau, Pacific Community (SPC), Fiji

Poverty results from conditions where people's basic needs for food, clothing, and shelter are not being met.

In the Pacific Islands the roles of agriculture in eradicating poverty relate to the following:

1. We must increase agriculture production – at the moment agriculture production in relation to population is either stagnating or declining with a few countries doing well with agriculture production increasing. We must increase production in order to improve food availability. This means increasing production at the national level. The households access to land must involve in agriculture and produce enough to eat and access to sell to those who cannot produce foods.
2. Food access can be realized by household producing their own food or by procuring food – this means households must have a source of income – either from agriculture or off-farm incomes from working elsewhere. Governments should encourage development of agriculture as an industry to provide employment for its people. In that way household earn incomes to purchase household needs. Our agriculture must be developed to increase not only foods, but also fibres and timbers, etc to meet basic needs of the households. Our agriculture in the Pacific still include agroforestry systems which provide not only foods but fibre.
3. Poverty should be look at to also include the individuals – and with respect to food – we mean healthy diet but when a household is poor – this does not happen but simple food systems can be developed to provide a healthy diet even for the poor.

In summary eradicating extreme poverty through agriculture is everyone’s business – it is individuals, households, communities and the government. The government must have conducive policies supporting agricultural development supporting the poor. Communities must develop community plans that include how to develop agriculture to provide for our basic needs. Households will be the ones to deliver on these and sectors like health and nutrition must contribute to develop diets even for the poor to ensure everyone is healthy.

Thank you

## Rajendran TP, Visiting Fellow, Research & Information System for Developing Countries, India

Given the importance of agriculture for the livelihood of the extreme poor, policies and activities aimed at improving the lives of these people, need to include agricultural development elements.

Along these lines, FAO is engaged in a broader reflection to refine and improve its approach towards the eradication of extreme poverty by using its experience in supporting the development of agriculture and the livelihoods of rural dwellers and contributing to the SDG agenda, leaving no one behind.

To stimulate the debate, we would be grateful if you could share your experience and views on the questions below:

My thoughts on these questions are:-

1. **Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.**

The context and scenario for this question vary with nations and regions within nations. However, with my Indian experience, I can confidently say that conventional farming with raising of crops alone is detrimental to the goal of decent living. People without access to land for farming and those without land have equal vulnerability as the much professed integrated farming techniques need seed money if not financial support. The bankers and financial institutions have very low inclination towards this class of people as they are unsure of returning the loan / credit amount.

Eking a living shall not be the aspiration of communities who are landless labourers or farmers living on leased land or of those with extremely very low-sized parcel of land within 0.5 ha. of dry land conditions (<350mm rainfall).

The primary challenge for such community is stable health. They are vulnerable and prone to both communicable and non-communicable diseases under tragically low hygiene and sanitation levels of their households. The issue of uplifting people from extreme poverty has direct bearing on the health status of these farming families. Another curse is the market-driven campaign of tobacco products and life-long addiction to every member of the family including the youth and children. When tobacco is the effective tool to suppress hunger in such communities, the analysis of the role of agriculture to alleviate poverty becomes redundant.

Money power is the next rider that can decelerate small landholders for achieving access to productive resources. Local money lenders and pawn-brokers suck their blood all through their lives. They cannot get any redemption from the debt trap until the governments provide timely credit at notional interest rates.

Hence SDG -2 has to be sociologically analysed with respect to SDG-1 and SDG-3.

1. **What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?**

The sustainable natural resource management (NRM) is part of civilizational integrity amongst farmers. They value land as their primary capital. Land as capital of farmers becomes a liability to them when the returns from it is challenged due to climate-change based weather aberrations and consequent recurrent crop loss. Sustainability of NRM becomes a huge challenge to them. SDG-2 becomes an unsustainable dream to them.

1. **Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?**

The scope of encashing such opportunities squarely depends on the prevailing market environment. Perishable commodities such as fish / livestock / dairy products do prevent them from easy means of earning for livelihood. Of course, these enterprises may assist them in accessing nutrition from these commodities; but their vulnerability to poverty from such entrepreneurial enterprises in their farms would be high without appropriate processing and preservation systems. It is implied that government or socially enlightened non-governmental organisations shall enable farmer producer groups (FPGs) to be organised to empower cooperative production, processing and marketing of such commodities to fetch higher profits. Indian instances in the states of Maharashtra, West Bengal, Madhya Pradesh and others are aplenty as examples of FPGs operating in tribal and deprived communities for producing and marketing commodities required for city / town markets.

1. **What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?**
2. Organise and install farmer producer groups – FPGs and Small Farmers Initiatives –SFIs under the supervision of local governance bodies on a missioned-mode programme.
3. Create micro-finance self-help groups of women in communities who can operate prudent and thrifty financing system.
4. Linking community nutrition with FPGs shall enable community health management along with appropriate interventions for the upkeep of hygiene and sanitation.
5. Measuring rural health standards periodically shall provide baseline data that can be utilised to gauge the health level of all family members.
6. **Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?**

I may be allowed to attach excerpts from a book review that I did in Asian Biotechnology Development Review of RIS (published by Research Information System for Development Countries). This book:-

**Commercial Agriculture by Indian Smallholders – From Farm Prospects to Firm Realities**

**Author: Prof. Partha R. Das Gupta©**

**Publishers: Maya Publishers Pvt. Ltd., New Delhi-110012 & Samskriti, New Delhi- 110070 in collaboration with Syngenta Foundation for Sustainable Agriculture, Basel, Switzerland**

**Year: 2017**

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**No. of pages: xxii +110**

*When technology-driven agriculture is planted in the innovative minds of Indian small holder farmers (from the states of Maharashtra, Odisha and West Bengal) innovation for local adoption and it would bring huge change in their existing farm economics. Commercial Agriculture by Indian Smallholders – From Farm Prospects to Firm Realities is the lucid narration by Prof. Partha R. Das Gupta of Syngenta Foundation for Sustainable Agriculture (SFSA), Basel, Switzerland (the Indian arm being not-for-profit institution Syngenta Foundation India (SFI) – established in 2005) about the potential to transform the livelihood prospects of smallholding farms in four locations of threes states into commercial farming for richer harvest.*

*There is the fast-fragmenting agricultural land holding of 1.16 ha as in 2010-11 National Sample Survey Organisation (NSSO) data against 1.33 ha of 2006 census data, far below the cut off of 2 ha that is actually the small farm norm. The fragmentation of farm land limits farm families to secure income from farming alone. The challenge to revitalise the rainfed agriculture of small farm holdings was taken up by SFI. It prepared road map in which pilot scale projects were designed. The recent government policy announcement on ‘doubling farmers’ income matches well with the experiences provided in this book by the author.*

*The book narrates in the efforts of the SFI, in association with local civil society organisations to practice self-sustaining farming in Indian small holding farms. Through the pioneering pilot and subsequent full scale involvement at Anandwan / Somnath, Chandrapur (Vidarbha region of Maharashtra) as given in chapter 1; resurgence of agriculture in Jawahar (Konkan, Maharashtra) in chapter 2; emergence of new Kalahandi (Odisha) in chapter 3 and small farmers make it big in Bankura (West*

*Bengal) in in chapter 4, Prof. Das Gupta successfully brings out vividly the saga of the mission-oriented programme to revive the smallholding farm economy in the four agroclimatic situations. The concept of profitability from farming has been pursued by SFI through the high-tech and knowledge-driven farming practices.*

*Dr M.S. Swaminathan in his Foreward to the book states, “small farmers can take big steps forward” and this is exemplified in the book by Prof. Partha R. Das Gupta. As much as the villagers have mastered the technology of high speed motorbikes or cell phones in recent decades, their preparedness to imbibe high-tech farm technologies is epitomized in this book. The significant imagery on facilitation of the most essential agri inputs, micro-finance and access to market is the pillar of success to such projects. The ecosystem that is woven out of the local resources has sustained the local partnerships between various actors who patronized the increased productivity of the farm commodities. The book narrates vividly the flow of money into farming families of the project villages across the country through the SFI initiative on intensive agriculture.*

*The selection of farm enterprises such as market-driven vegetable production, high quality hybrid seed production of rice and vegetables for making available local farmers, integration of livestock and fisheries in accordance with the resources of the villages have been masterly entwined in the plans and programmes for each of the four locations. Interesting hand-holding with organisations such as BAIF-SEDP could strengthen the goal of transformational paradigms in order to shift the present approach with futuristic innovative farming practices. Creditable SFI initiative was to organize farmers these technologies to imbibe the farm technology and knowledge along crop seasons. The farmers could absorb technologies and skills to build up confidence for plunging into the risk-bearing entrepreneurship such as for commercial hybrid seed production, high value vegetable production or pushing the high yielding vegetable production for small towns and urban markets. The vivid detailing of experimentation in the four locations to introduce concepts such as market-led extension of fruit-bearing technical knowledge and build-up of farmers’ confidence to become entrepreneurial are the highlight of the narrative that signify the success of the SFI initiatives. The idea to move with the locally influential social organisations such as Late Padma Vibhushan Baba (Muralidhar Devidas) Amte’s Maharoga Sewa Samiti at Warora (Maharashtra) and similar ones in the locations to get to the hearts of farming families along with carefully chosen project partners is professionally ingenuous.*

*Chapter 1 provides lucid narrative about the agriculture at the Dr. Baba Amte’s Anandwan in Warora, Chandrapur district (Maharashtra) became an impetus gaining economic strength of the farmers of Anandwan and Somnath. The author gives anecdotal narrative to illustrate the catalytic efforts of technology interventions in reforming the prevailing practices to bring about the change in the profitability of farmers. Appropriate Technology interventions in rainfed farming of black alluvial soils of Vidarbha region is a tell-tale narrative in this book. The planned programmes that Baba Amte steers through with the help of SFI initiatives make Somnath village more prosperous. Technology driver in the ridge furrow cultivation of Soyabean in Trupti Sadan, rice cultivation in Shanti Sadan, and hybrid brinjal cultivation at Phaal village made the smallholding farmers to achieve greater benefits and prospects. The trigger for the establishment of Agritech School at Anandwan in 2010 and its growth into the Agricultural Polytechnique under the Panjabrao Deshmukh Krish Vidya Peeth (PDKV), Akola is the best example that the SFI could initiate to enhance skill in the farming families of the region. Agri-business, seed production, animal husbandry and livestock management, fisheries and aquaculture, home science and post-harvest processing are part of its curriculum to make the farm youth independent and enterprising. Skilling of youth and developing women entrepreneurship in villages of the Chandrapur District is commendably achieved by this institution in the last seven years.*

*The Chapter 2 illustrates the hand holding with Pragati Pratishtan (Sunanda Patwardhan ji) to reform the farming practices of the tribal villages to make the farmers reap higher profit from the farm land. Introduction of technology transfer for ‘System of Rice Intensification (SRI)’, vegetable cultivation, intercropping vegetables in orchards, certified rice seed production and agroforestry with cashew/mango fruit trees were undertaken in three phases. Hand holding with Bharat Agro-industries Foundation (BAIF) got a fillip to the tribal village progrmmes in vegetable cultivation. The author provides vivid and illustrative narrative about organising farmers for collective marketing through BAIF-affiliates such as Amrai Tribal MITTRA, Fruit Processing and Marketing Cooperative Society (‘Amrai Coop’). ‘From Thane to Thames’ is anecdotal punchline in the narrative on pilot plan of export of vegetables from the SFI project area at Mokhada (vegetable valley) village in 2010 through the hand holding with a private exporter through contract farming on global GAP norms. From 35.6 ha in 2011-12, the vegetable area grew to 157.4 ha in 2014-15, mainly lured by the market linkage to produce over 2576 mt vegetables in that year’s kharif season; all within the average holding size of 0.12 ha tribal area farms. This vegetable production hub emerged as major supplier to Mumbai and its suburbs. The critical mass for commercial vegetable production could be created in the Mokhada-Vikramgad project area. The average net income of the tribal farmers of the region in each kharif season from 0.12 ha land shot up to Rs 21000 that is 45% more than the labour wages earned by 100 days of work under ‘Mahatma Gandhi National Rural Employment Guarantee Act’. Such incentives and smart options could make many tribal farms to produce vegetables in rabi season too using support irrigation. Ultimately migration of farm families to neighbourhood towns and Mumbai could be much restricted due to steady income from the land.*

*Chapter 3 is the SFI experience in the eastern India at Kalahandi district in Odisha. The extensive description in this chapter on programmes with the integration of organizations such as Kalahandi Association for Rural reconstruction and Total Awareness Benefit of Youth Action (KARTABYA) is a treatise to the emerging ‘Start-Ups’ in agricultural sector of the country. Good quality (genetically pure with high vigour) crop seeds being the primary input in farming, and farmers struggle to access this during each cropping season, SFI took up the mission on developing Seed hubs for hybrids of rice and vegetable*

*crops. Alongside the mission on crop intensification for higher productivity and profitability from unit land, the technological interventions for SRI production and vegetable cultivation enhanced the scope to make smallholding farmers to be aspirants of profitability from a situation of bare livelihood from their agricultural land. Market-led extension as a strategy to transfer technology and knowledge worked well in Kalahandi, with its good natural resource potential. It shot into hybrid seed hub for rice and high value vegetables. The transformation of the project area into amazingly profit oriented agriculture is elaborated.*

*Farmer to farmer seed movement was visualized when the high yield variety development programme in crops through ICAR-All India Coordinated Crop Improvement Projects were commenced. The SFI took on this mission earnestly and could succeed to convert ordinary farmers into vegetable growers and seed producers through smart networking as well as handholding of the farmers groups with knowledge-bearing team of extension workers of SFI. Ultimately, the seed companies found congenial system for organizing contract seed production of crops such as rice, maize and vegetables through the experienced seed producer farmers. The author’s picturisation of the seed enterprise in 252 ha of 343 farmers with estimated value of seeds produced for about Rs 180 million is fascinating. Odisha government declared Rs 25000 per ha as subsidy for hybrid rice production farmers. Prosperity through smart agriculture could be enjoyed by Kalahandi farmers under SFI smallholder farmers’ extension programme. The World Bank funded project: ICAR National Agricultural Innovation project (NAIP) under Component 3 (Sustainable Rural Livelihood and Food security to rainfed farms in Orissa) had KARTABYA as consortium partner, as recommended by SFI. Similarly the partnership of SFI with ‘Youth Council for Development Alternative (YCDA) for microfinancing for vegetable cultivation, ‘PRADAN’ for livelihood security and women self-help groups and Association for human rights education and development (AHEAD) for growing pulses, maize and cotton in Naupada district (villages of the old Kalahandi district). The narrative in Chapter 4 is about the disadvantaged Bankura (West Bengal) district having drought in spite of 1340 mm rainfall and the SFI designing farm technology-loaded package of hybrid vegetables, hybrid rice and SRI, homestead goat farming, duck farming and fish farming. The strong association with the local organization, Shamyita Math became catalytic for developing agricultural advisory programme for the local farmers. The initiative to harvest rain water in the village- tanks to irrigate high value vegetables enhanced irrigation coverage to over 40%. Desilting and deepening of village tanks was fruitful to accelerate the adoption of vegetable cultivation in many villages. Participatory seed production plans were drawn for hybrid rice and branded as ‘Sree Rohi seeds’ could enhance the esteem and self- confidence of farmers of Bankura. With the handholding of local agricultural experts, the Shyamita Krishi Kendra (SKK) could become the farmers’ resource centre for technical knowledge, farm implements such as kono weeders and high yielding crop seeds and other farm inputs. SKK became a two-way track for farmers to access technology and knowledge and SFI vehicle to ply through farming families offering various strategies to make their farm income improve steadily. Examples such as ‘hub and spoke’ market-linked intensive commercial vegetable cultivation, potato production linked to processing factories, SRI based hybrid rice cultivation, servicing of village water tanks for farming and homestead livestock / fisheries and goat rearing / piggery enterprises are described in the book as excellent success stories that got spread over to adjoining Purulia district too.*

*The author has successfully captured and encapsulated in this book the professional SFI programmes that were executed between 2004 and 2014. The goal of enhancing small farmers’ income through situation-specific appropriate farm technology for bettering crop yields, cropping intensity, commercial seed production, integrated farming system with homestead livestock and poultry, market-driven crop production, micro-finance set up and committed participation of local organizations for deep participation and facilitation. The spinoff from these four enduring examples of attempt to double farmers’ income in tune with government mission is the intense vocational training for farm youth and improving women power for timely farm-centric management decisions. The perceived risks in undertaking high value agriculture that became accepted practice in these projects were imaginatively mitigated through astute micro-finance institutions. Probably agricultural insurance could become a risk-proofing farm input for undertaking high-tech farming. The lucid reading of the book to get the feel of the ups and downs of every project significantly etches into the reader is the testimony to the author’s pain to make this book a free-flowing text with number of anecdotes. The book brings out the saga of bringing changes in farming through location-specific technology recipes in the phase I to phase III journey of the SIF programmes in all locations. The author has provided the panorama of the extension mechanisms and techniques adopted in each of the location where SFI took up knowledge intensive farming practices for changing livelihood pattern of the deprived smallholders.*

*The author may consider the analysis of nutritional satiation of the region through the introduction of dairy, fruits and vegetables in the cropping system in the course of the mission on crop intensification. Protein and mineral nutrition is best achieved to all members of families and could be to be valued and assessed while providing project achievements of locations.*

*Economic valuation of satiated food, nutrition and health of farm families can be the indicators for such hard effort to make smallholding farms commercially viable. The sustenance of Indian agri-biodiversity is one of the key achievements of such projects. The effort to maintain and utilize these crop bio resources is indeed the hidden success to achieve the economic benefits of communities of the region. A value chains that are created through such projects need elaborate studies in terms of employment and income generation, social value chains, and ex-ante / ex-post socio-economic impact over decades. The project managers may have the opportunity to subject such project areas for follow up of the sustainability of these enterprise created. These could be good subjects for the local educational institutions to involve their students for training on dissertations. The silent transformation from ‘livelihood farming’ of the villagers in these states where the projects operated to ‘commercial agriculture’ has elements of emotions of people that keeps generations to remember the SFI programmes and continue them effectively through similar mentoring organisations.*

One can deeply sense after reading this book that the systems pursued by SFI can be replicated through robust hand holding with small farmers in any state by similar goal-bearing individuals or institutions.

–T. P. Rajendran

Visiting Fellow, RIS

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## Getaneh Gobezie, Ethiopia

Dear colleagues, the microfinance sector is increasingly proving an effective way to reaching the very poor, and eradicating extreme poverty in a sustainable way in many developing countries of Asia, Latin America and Africa. It opens access to small capital to the poor, even the very poor with no conventional material collateral. In this way it facilitates the use of modern agricultural technologies that enhance production and productivity. ... This is not limited to just available ''external resources'' in terms of credit to the poor. Better suited microfinance services also facilitates better financial management among the poor. Especially, such services can help the poor through modern ways of savings -- providing secure, convenient saving facilities where the poor can store extra income (whenever it is available) and availing it for use when it is needed. The poor can thus use such resources as need, for consumption, investment, meet emergencies, etc.

Indeed, there are growing evidences that the poor can finance most of their consumption and investment requirements from their own resources (without external credit!!) if suitable saving facilities are available... One example from Kenya (but there are many such cases recently) -- The biggest difficulty farmers adopting new technologies faced was not in ‘understanding’ the methods and their benefits, but in timing savings in order to purchase the fertilizer when they needed it. When financial tools were provided that solved this problem – cash proceeds collected from farmers at ‘time of crop sale’ and put in a ‘commitment saving’ account at a local bank -- fertilizer use and production increased.

The value attached to availability of flexible saving facilities is even greater by women, for whom secret accumulation of resources in a secure place provide additional advantage of storing wealth, secure from many potential claims on (including from husbands). It has a great empowerment service, ...

Unfortunately, such demand-driven services are limited in outreach in many contexts, especially in Africa!. Service providers have a lot of capacity challenges to meet real demands of the poor, especially the very poor in rural areas (including those of women, youth, etc)

Oure earlier paper (from a comprehensive field assessment) is posted at CGAP/Microfinancegateway:

<http://www.microfinancegateway.org/library/overview-practical-challenges-local-saving-mobilization-ethiopian-microfinance-institutions>

Regards

Getaneh (getanehg2002@yahoo.com)

Saving Mobilization (Training Handout), Getaneh Gobezie

<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/PARTICIPANTS%20Manual%205.pdf>

## Rutger Groot, East-West Seed, Thailand

Good input materials and training for farmers can boost their yields immensely! If farmers get access to good quality seeds (instead of deteriorating quality farmer saved seeds), good fertilizers and appropriate chemicals, they can make the next step. Government intervention creating a better enabling environment is required: taking away stupid seed import restrictions, shortening registration procedures and streamlining phytosanitary regulation.

Furthermore, good training (knowledge transfer/extension/...) is required to bring smallholder farmers (who produce over 80% of world food production) to a higher level and become true rural entrepreneurs.

Thus, they can improve their families' (rural) livelihood and enhance nutrition security. And thereby the root causes for migration are also taken away.

Sub-Saharan African farmers can really make a huge step for themselves and their environment if all parties join forces to support them: private companies (like East-West Seed) to deliver good farm input materials and training, governments (to facilitate inputs and produce trade), donors (to fund training, irrigation and logistics projects) and NGOs to execute the projects.

Let's join forces and make Africa blossom again!

## Robert Mutisi, Manica Boards and Doors, Zimbabwe

Role of ensuring sustainable natural resources management

Trees, vegetation and bees are natural resources in our Zimbabwean environment. The environment if managed well will offer some social and economic benefits to human beings thereby eradicating poverty. Bees do well in the forests and beekeeping in some areas of Zimbabwe has been used by some associations as a tool to prevent fires. Fires destroy bees and other organisms, destroy vegetation, destroy the top soil in the forests and expose the soil to all agents of erosion. Once soil is washed into the rivers and streams  water quality becomes in poor and flow is disturbed by the accumulation of silt deposits. Once the environment is destroyed life of flora and fauna is threatened. The dying of bees means there will be no honey to be realized and food security is threatened as pollinators will be not available. The absence of vegetation means there is no bee fodder to make honey from. A sustainable management of natural resources creates an environment where human beings can realize social and economic benefits that improves their well-being.

I have noticed during my visits to some areas that fires are tempered with and caused destruction of natural resources. I have also noticed that forests that are protected well are safe from fires and deforestation. See attached pictures that support my contribution.

Robert Mutisi.

Working for Manica Boards and Doors and team leader of Working for Bees team.

## Robert Mutisi, Manica Boards and Doors, Zimbabwe

In Zimbabwe crop production and beekeeping fall under Agriculture. Beekeeping can be integrated quite well with crop production. Bees play a major role in crop production through pollination services. Bees are also very important in that they also produce products which human beings can consume and make use of. Whenever bees pollinate crops improved yield and quality of seed are realized. The improved yield/ production ensure food security.

The forest is also a very important habitat for bees and honey production can also take place under such an environment. Forests are sources of a wide range of bee fodder that produces nectar which is used in honey production. The integration of Forests and Crop farming (Agro-forestry) with beekeeping brings a very important initiative in poverty eradication. Bees can be kept in the forests and can only be moved to crop fields whenever they are needed for pollination.

I have personally experienced this practice in several communities and I have together with my team set up a livelihood model where Agro-forestry is integrated with beekeeping. From this set up/ initiative we have realized lots of livelihood options that include:

1. Honey production
2. Bees wax production
3. Harvesting of herbal plants
4. Production of sunflowers, fruits, pumpkins, beans etc
5. Oil extraction from sunflower seed
6. Sunflower cake resulting from oil extraction
7. Mushroom harvesting from the forests
8. Poles and firewood from the forests

We are using beekeeping in our communities as tools to drive tree planting programs, crop production and fire prevention

Robert Mutisi.

Working for Manica Boards and Doors and team leader of Working for Bees team.

## Dhananjaya Poudyal, Civil Society Alignes for Nutrition Nepal (CSANN), Nepal

Question No. 1

1. By providing them the barren land that is no longer cultivated by the land owners. They can improve their living conditions by producing the food crops from the land.
2. By providing credit facilities without or minimum rate of interest with the provision of conducting off-farm / livelihood activities.
3. By generating employment opportunities to the family members of those households.
4. By providing free education facilities to the children, and free medical facilities to the family members of the households.
5. By providing opportunities of non-formal education to the households on different specially on social sector like health including reproductive health, nutrition, sanitation, and gender etc.

Question No. 2

Management of natural resources which are sustainable can have various roles in supporting the eradication or reduction of extreme poverty by accessing to the resources of the poor people. But the natural resources are varied country to country. In the case of Nepal forest, and water are major natural resources followed by land and mines. Community forestry owned by the community people are a good example to address the poverty situation of the communities in rural as well as in urban areas by accessing them to the forest.

Question No. 3

Partially yes. I cannot say that all the people from extreme poverty can find the pathways out of the sectors that are mentioned above. It depends upon the place (residing), time (rainy season, winter season) and some of the other factors like awareness, favourism in the community, and skilled or non-skilled too.

Question No. 4

Authorities should have the policies of food security in respect of eradication of poverty in rural areas as follows:

1. Policy should be focused on availability of food whole of the year with increment in food production locally. Policy should be it that if the land owner does not do farming in the land it could be provided the land to the people from poverty sector without paying tenancy to the land owner.

Accordingly policy should be addressed towards initiation in livestock activities like cattle or buffalo farming, goat raising, and birds raising and so on.

1. To be ensured access of poverty sector to the food. They should have to eat the food without difficulties of infrastructure, and without shortage of money. For this purpose it would be applicable to take the policy of food rationing, and introduce the programme food for work.
2. Increase awareness of the people for not wasting the foods rather to give to the hungry people before wasting the foods.

Question No. 5

There is no specific example with pin pointing in reduction of extreme poverty through an agricultural pathway. But it can be mentioned here that one of the reasons of reducing the rate of poverty in Nepal is due to the activities conducted based on agricultural pathways.

## Chidozie Ernest. Federal University of Technology Owerri. Nigeria

To eradicate poverty through agriculture, blank cultivation of crops without land suitability, fertility and capability evaluation for such crops should be discouraged.

## Shahid Zia, RBDC, Pakistan

1. There is no simple fit for all solutions/activities that can help use agriculture to bring families out of extreme poverty.

2. We have to follow two set of strategies to get families and communities out of extreme poverty. One, Farm level strategies for the families having access to land resources. Two, income and food security strategies for the rural communities including those who have no ownership or access to land resources.

3. Farm Strategies will include biodiversity based farming systems that can offer resilient to climate change and have the capcity to meet food and income needs of the family.

4. Community level strategies will focus on how to bring landless families in the food and income security loop. Livelihood of most of the landless families partially if not entirely depend on the growth of agriculture at community level. Development practitioners need to understand the linkages that local agricultural economy cultivates between smallholders and landless families.

5. Lok Sanjh Foundation, Pakistan has developed low cost climate resilient models of food production that can offer food security at household level. Model uses local biodiversity and resources to build a small but large enough food garden that can offer adequate food for the family in all seasons. School youth is involved in building and replicating the models in their villages.

6. For community based Food and Income Security Model, Lok Sanjh forms committees of village women representing both smallholders and landless families and engages these committees in building community based food and income security strategy. Once agreed, Village Women Committee (VMC) is responsible to implement the strategy. For instance, Village Grain Banks and Village Goat Banks work beautifully and offers both food and income seccurity. One participating woman said in one of the experience sharing meeting that her children got milk in their diets first time from the goat she got from the Village Goat Bank years after they got their mother's milk. She shared that income from the sale of some of the goats she produced from the goat she received helped her send her children to schools.

Dr. Shaid Zia

Founder

Lok Sanjh Foundation

## Takele Teshome, Association for Sustainable Development Alternatives, Ethiopia

**1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.**

In Ethiopia food insecurity is almost synonymous with poverty. Hence, the effort to lift people out of poverty should start from exerting synchronized effort to enhance food security. This situation appears to prevail in many least developed countries. Food security can be attained by addressing the 3 pillars of food security through increasing food availability employing improved production technologies, creating access (economic etc) to facilitate easy distribution to enable those who cannot produce their food to buy from the market with affordable price and improve food utilization (nutrition) though nutrition education and overcome post harvest loses from the available food. The improved agricultural technology and practices should cover both pastoral and agro pastoral communities to enhance food and livestock production and support along the value chains. The intervention should focus, not only those who own land, but also the landless, women headed households etc through agricultural and non agricultural livelihoods diversification. I believe that the combination of the above measures will help attain food security, economic growth and poverty reduction and eventually poverty alleviation

**2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?**

Natural resource management should be participatory through upstream and downstream engagement. One cannot achieve sustainable natural Resource management by excluding resource owners and users (the communities). The policing and restricting access approach did not yield substantive success. It should be the resource owners and users who should protect and develop its resources (land, water, soil etc). If they are given this opportunity with proper awareness, community by-laws that illustrate the conservation, development and equitable benefit sharing they will engage not only in planting trees, but also in ensuring their survival. Cultivating awareness and leadership among University and High school students will also help to engage students in annual tree planting during school/university closure and use them as change agent in their respective communities.

I also think that there is a need to institutionalize annual tree planting campaign to ensure survival of planted seedlings and the respective institutes that planted seedlings should also take appropriate measure for ensuring the survival of those seedlings through post planting care until the seedling pass vulnerable stage

My association applied most the above suggested approach and achieved commendable results and won best practice award standing 2nd. But, resource constraint did not allow scaling up the best practice. Indeed, the developed bylaws should be approved by the regional government to scale up the initiative

Such integrated approach will enhance food security, climate change adaptation, biodiversity conservation and community based tourism development

**4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?**

To my opinion, policy and practice integration and interagency collaboration is of paramount importance.

Sustainable land management, disaster risk reduction, climate change adaptation are closely connected to help achieve food security and thus poverty reduction and also tourism development.

Hence, policies pertaining to the above thematic areas should speak to each other and exert synchronized effort to achieve economic growth of the country. Public-private partnership to promote economic governance (job creation, foreign currency generation, import substitution), Social governance who civil society organization work on behavioral change, constitutional right and obligation awareness is given through CSO/NGO,CBO) and political governance where the government create enabling environment, policies strategies and political participation will enhance sustainable human development. Also, enhancing. research/academia-extension and farmers linkage is critical to connect technology generators (Research) , technology disseminators (extension) and farmers (technology users) significantly contributes to poverty alleviation.

In this regard, ASDA has attempted bring the academia, research, agricultural and health extension system together with a view of promoting linkages and collaborations in one of its project and plan to scale given availability of funds

Takele Teshome
Executive Director, Association for Sustainable Development Alternatives (ASDA)

## Birgit Nimukamba Madsen,Denmark

Community based programmes developed and implemented on Participatory Learning and Action (PLA) methodology, techniques and activities and strongly supported by Governmental political-, legal-, economical – and institutional structures at both national and local levels may be the only genuine, sustainable solution to reach the extreme poor women and the extreme poor men in rural areas.

Some national and multilateral aid agencies have been involved with various models of this kind for decades.

However, we/they need to learn, adjust and apply again from these experiences in order to continue improving the approaches although they are low cost and long-term and therefore often seen as failures.

Another challenge for FAO could be strengthening of its support to poor, landless casual male and female workers in multinational, agricultural plantations. This could for instance be in pineapple cultivation, which is both a nutritious food crop, cash crop and export commodity.

The poor casual workers need support with respect to all aspects of their livelihoods, such as from salary and working conditions to training and housing.

FAO could preferably coordinate support with other relevant UN agencies like ILO and in that way have a strong influence on national government labour laws and regulations.

My personal experience from 45 years of professional work in various research and aid agencies is that the extreme poor landless women and men are almost impossible to reach because of lack of any entry points in non-existing supporting structures.

Birgit Madsen

previously Women in Food Systems Officer, FAO HQ

## Manuel Castrillo, Proyecto Camino Verde, Costa Rica

Spanish version

Dese hace bastante tiempo se vienen diseñando estrategias y se tienen miles de estudios para atender este tema. Ciertamente es muy complejo y no puede haber una receta única. Muchos son los contextos y muchas las posiciones e intereses en juego. Siendo necesario ubicarnos en las verdaderas  intenciones y disposición de los actores políticos y empresariales, aparte de la posición de poder que puedan adoptar los agricultores y sus familias. El quid de la cuestión, estriba básicamente en ***lo político y económico***, son los factores fundamentales para dar viabilidad a las investigaciones y proyectos de campo, que al final deberán tratar de tener éxito.

**Las estructuras económicas y sociales**, no están en función efectiva de esta problemática - sino habríamos resuelto el problema desde hace tiempo -, y si bien se ha avanzado en ciertos países, la falta de congruencia en aplicar criterios de sustentabilidad de manera real, deja las mejores intenciones en el camino. Los recursos financieros no se brindan sin tener réditos altos generalmente, siendo necesario, oportunidades de **financiamiento blando** prioritario para optar por mecanismos de producción sostenible y con una competencia justa en los mercados locales y globales.

***El acaparamiento de tierras***por diferentes ***grupos económicos*** ***de poder*** es una constante que va limitando el acceso a poblaciones de escazos recursos. Las reformas agrarias quedan a la mitad en muchas ocasiones y carecen de acompañamiento sostenido hacia el éxito !. **La masificación de los cultivos** ( en la mayoría transgénicos ), que a degenerado en alimentación menos saludable y provoca la desaparición de los agricultores individuales ( parceleros ) o comunales, y de prácticas ancestrales que salvaguardan el ambiente y tienen mayor riqueza nutricional, ven amenazadas cada vez más sus probalididades de mercado. ***Los intermediarios lucran***con la bendición de los ministerios y agencias de agricultura, dejándose la mayor parte de las ganancias. Este panorama es la regla, debiendo ser la excepción !

**La gobernanza**- matizada por una ***gran cuota de corrupción*** - deviene en obstáculo mayúsculo, para generar inclusión y democratización de los recursos, así como, la falta de**"espacio "**, ante los organismos económicos para balancear la oferta y la cuota de producción de economías de escala menor. Cuánto hemos avanzado realmente en implementar las políticas, investigaciones, discursos, declaraciones y manifiestos, entre otros ?

Entonces, la eliminaciónd de la pobreza  extrema tiene que**ver y tener** un enfoque **holístico**que parta de una ***sana visión y acción política,***lo demás viene por añadidura.

**English version**

For quite some time, strategies have been designed and thousands of studies have been carried out to address this issue. It is certainly very complex and there cannot be a single recipe. There are many contexts and many positions and interests at stake. Being necessary to locate ourselves in the true intentions and disposition of the political and business actors, apart from the position of power that farmers and their families can adopt. The key question, is basically political and economic, are the fundamental factors to give viability to research and field projects, which in the end should try to succeed.

The economic and social structures are not an effective function of this problem - we would have solved the problem for some time - and although progress has been made in certain countries, the lack of congruence in applying criteria of sustainability in a real way leaves the best intentions on the road. Financial resources are not provided without generally having high returns, being necessary, priority soft financing opportunities to opt for sustainable production mechanisms and with fair competition in local and global markets.

Land grabbing by different economic groups of power is a constant that limits access to populations with limited resources. Agrarian reforms are halved on many occasions and lack sustained support for success !. The overcrowding of crops (in the majority transgenic), which degenerated into less healthy food and causes the disappearance of individual farmers (parceleros) or communal farmers, and of ancestral practices that safeguard the environment and have greater nutritional wealth, threaten each once more their market probalities. The intermediaries profit with the blessing of the ministries and agencies of agriculture, leaving most of the profits. This scenario is the rule, it should be the exception!

Governance - nuanced by a large share of corruption - becomes a major obstacle, to generate inclusion and democratization of resources, as well as the lack of "space" before economic bodies to balance the supply and production quota of economies of smaller scale. How much have we really advanced in implementing policies, investigations, speeches, statements and manifestos, among others?

So, the elimination of extreme poverty has to do with a holistic approach based on a healthy vision and political action, the rest comes in addition.

https://www.inder.go.cr

## Laxmi Prakash Semwsl, ANNAMRIT farmers as owners foundation, India

Annamrit farmers as owners foundation has been launched in January 2015 to build a strong partnership between producers (farmers) the growers of Annam (food), entrepreneurs (collectors, packer, distributor and value addition force to food), development cooperation organizers (coordinators and co-operators in food value chain) and investors (financers for storage, packing, quality control and handling of foods). The main role of the foundation is to attract the social investment sources of finance to build the food value chain with focused approach of producing, storing, collecting and distributing the pure and healthy food which should be as beneficial as Amrit (nectar).

The main actors

Collaborations between corporate sector agencies and non-profit sector actors opens up opportunities to finance the cold chain for fresh produces and other Agri value chains as partnership business models. The actors involved are mutually supportive and complementary in terms of expertise, experience, networks and access to external resources. These actors, collectively referred to in this chapter as the ‘Social Business Management Consortium’, should obviously have a shared vision on social/economic objectives as prime driver to participate in this approach. The partners that collaborate in the Apple Project can be categorized in four groups:

* Producers: Particularly the farmer groups’ organized in Farmer Trusts or any other legal form.
* Inclusive development actors: Particularly knowledge/training institutions, government and (international) development agencies and development cooperation sector.
* Business partners: Experienced and social conscious entrepreneurs to manage and operate the business activities in competitive market.
* Financial supporters: Social investors / banks and Govt. agencies. They invest in ventures with a focus on economic profits as well as social impact.

The inter-dependent structure of the model aligns all these entities and the stakeholders to work towards a single mutually beneficial goal.

See attachment: [www.fao.org/fsnforum/sites/default/files/discussions/contributions/SE-Model.pdf](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/SE-Model.pdf)

## Bruno Kestermont, Federal Public Service Economy, Belgium

Original contribution in French

Permettre aux plus pauvres de disposer d'un jardin potager, individuel ou collectif, notamment lors de la planification urbaine.

En Belgique historiquement, les logements sociaux ont été conçus avec un jardin potager qui permettait à chacun de cultiver un minimum de légumes ou réaliser un petit élevage pour s'assurer une qualité alimentaire minimale.

English translation

To allow the poorest to have an individual or collective vegetable garden, especially during urban planning.

In Belgium historically, social housing was designed with a vegetable garden that allowed everyone to grow a minimum of vegetables or carry out a small breeding to ensure a minimum food quality

## KV Peter, Kerala Agricultural University, India

"Zero Hunger India:Policies and Perspectives" is a forthcoming edited book published by Brillion Publishing New Delhi.The book carries 6 preambles and 28 chapters dealing with food and nutrition security,hidden hunger due to deficiency of vitamins and minerals in the household diet,backyard farming of fruits, vegetables and spices;aquaculture; livestock rearing and food safety.Food adulteration is becoming rampant in outdoor eating places.Government of India has enacted Food Security Act-2013 making access to food a right to its citizens.

The content of the book is attached:

[www.fao.org/fsnforum/sites/default/files/discussions/contributions/Content%20%285%29.docx](http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Content%20%285%29.docx)

## Emile Houngbo, National University of Agriculture Porto-Novo, Benin

**Original contribution in French**

**Pouvez-vous nous fournir des exemples d'expériences qui ont permis de réduire (ou d'éradiquer) l'extrême pauvreté par le biais d'une filière agricole?**

Deux exemples particulièrement reconnus dans l’histoire permettent de prouver combien l’agriculture bien organisée peut aider à éradiquer l’extrême pauvreté, même en zone fortement peuplée. Il s’agit des cas du pays Bamiléké au Cameroun et du district Machakos au Kenya. En effet, au pays Bamiléké au Sud-Ouest du Cameroun, certains « quartiers » ayant une densité de la population avoisinant les 1000 habitants par km² sont arrivés à produire des surplus pour alimenter les villes de Douala et de Yaoundé. L’agriculture florissante a été à la base de l’éradication de l’extrême pauvreté dans cette région. Dans le district de Machakos au Kenya, la croissance de la population au cours de plusieurs décennies s’est accompagnée d’une incontestable intensification agricole et d’une amélioration de la gestion des ressources du milieu. L'utilisation de la technique de terrassement sur les plateaux pour contrôler l'érosion des sols était largement adoptée, dans la mesure où le gouvernement mettait l'accent sur la conservation des sols. Il y avait aussi une tendance à l'adoption des innovations et de changements de techniques agricoles, y compris le développement des variétés à maturation précoce. Avec le temps, la croissance démographique a conduit à une augmentation de la demande de produits alimentaires, de l'offre de travail, à plus d'innovations techniques et de coûts réduits de transaction. La productivité des terres s'est améliorée. Entre 1930 et 1990, la production en valeur par habitant a triplé, tandis que celle de la production en valeur par hectare a décuplé pendant la même période. L’extrême pauvreté y a disparu.

**English translation**

**Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?**

Two especially well known examples from the past provide proof of how, well-organized agriculture can help to eradicate extreme poverty even in densely populated areas. These cases are Bamileke in Cameroon and the district of Machakos in Kenya. In fact, in Bamileke in the Southwest of Cameroon, some districts having a population density approaching 1000 inhabitants per Km2 have managed to produce a surplus to feed the towns of Douala and Yaounde. Flourishing agriculture has been the basis the eradication of extreme poverty in this region. In the district of Machakos in Kenya, the population growth in recent decades was accompanied by an unprecedented intensification of agriculture and by an improvement in the management of resources in the area. The use of the technique of terracing on the plateau to control soil erosion was widely adopted, in keeping with the emphasis put by government on soil conservation. There was also a tendency to adopt innovation and change in agricultural techniques, including the development of early ripening varieties. Over time, demographic growth has led to an increase in the demand for food products, available jobs, more technical innovation and reduced transaction costs. Productivity of land was improved. Between 1930 and 1990, the value of production per capita has tripled, whereas that of production per hectare has doubled during the same period. Extreme poverty has vanished.

## Joseph George Ray, Mahatma Gandhi University, India

Agriculture is the basic activity to eradicate poverty. However, the problems of agriculture that cause poverty in different nations are different. Therefore, the global intervention in agriculture to eradicate poverty depends on the specific issues prevailing in specific regions.

1. First of all, land reforms are essential so that everybody has access to sufficient land for cultivation to become self sufficient in food production. Therefore, land reforms must be the most significant step to eradicate poverty.

2. Promotion of strong democracy is the most significant political step to ensure people friendly land reforms in poor nations

3. In many poor countries, it is not access of people to land, but the lack of the basic resources for agriculture such as irrigation facilities, agricultural implements, fertilizers, good quality seeds and the like remian the major cause of poor productivity. Developemntal programmes to ensure such resources can eradicate poverty in such situations

4. Strengthening of financial capabilities of village communities through formation of self help groups, microfinance schemes and credit unions are essential to improve agriculture in many village communities.

5. Low price for crops in the season and lack of storage facilities, exploitation by middle men and the like are the serious causes of agricultural poverty in many Asian village communities. Formation of agricultural cooperatives, centralized agricultural storage facilities, state interventions in the market, direct link of urban supermarkets to village cooperatives and the like are very helpful in eradicating such issues of poverty.

6. In many developing and even developed countries, the focus on agriculture should change from quantity to quality; that means people are ready to provide more cost for organic products than chemicalized products. Therefore, the income promotion activities in agricultural sector should focus on organic agricultural means.

7. Developed nations can support organic farming procedures in the poor nations and thereby enabling them to get high prize for their products, through which poverty can be eradicated

## Paul von Hartmann, California Cannabis Ministry, USA

Dear friends,

There are many places in the world where organic Cannabis hemp agriculture could have substantial, uniquely beneficial effects on food security, nutrition, environmental integrity, water purification, insect control, and economic prosperity.

In many places, the greatest obstacle to solving many of the problems that afflict people is the lack of access to Cannabis because of the suppressive influence of the misconceived "drug war" that prohibits hemp agriculture.

Consider that hemp is the ONLY crop that produces complete nutrition and sustainable biofuels from the same harvest. This means food security & nutrition are improved by cultivation of a crop that produces sustainable biofuels.

Responding specifically to your questions,

1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.

Cannabis is a non-invasive pioneer crop that grows extremely well with minimal input, under a wide variety of soil & climate conditions. Hemp is capable of producing essential food and energy resources, while it also provides multiple income streams from the seed, oil, fiber, stems, and roots. A valuable source of nutrition for animals and fish, hemp is a versatile, adaptable, ancient crop.

2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?

"Ensuring more sustainable natural resource management in supporting the eradication of extreme poverty" begins with objectively considering ALL possible species of agricultural crops. Currently, hemp is excluded from consideration because of obsolete, counter-productive policies that prohibit hemp farming.

3. Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?

Cannabis hemp is a plant that grows well in wild places, attracts wildlife, and phytoremediates depleted and contaminated soils.

4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?

Ending Cannabis prohibition is necessary for allowing  organic agriculture to work.

5. Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?

There are many examples of farmers all over the world who plant hemp with great success. What has yet to be realized are the benefits to ending extreme economic disparity that global redistribution of hemp would have, through expansion of the arable base and standardization of energy production using hemp cellulose to produce hydrogen with which to generate electricity.

Thank you all for your great works and objective consideration.

Best wishes,

Paul von Hartmann

Cannabis scholar

Ashland, Oregon

USA

##  Aly Ercelan, Pakistan Fisherfolk Forum, Pakistan

*I have referred to our papers through past FSN  discussions, so I should not repeat myself. But I invite reflection on what should not be done. Pakistan is my example.*

If review in a national newspaper DAWN is a guide, then the recently finalized policy on food security promises zero hunger as a continued illusion. Malnutrition may worsen.

Wish I could paste the link but this contribution format does not allow it. Please check the link below:

<https://www.dawn.com/news/1401780/challenges-in-implementing-food-security-policy>

##  Kevin Gallagher, Future of Agriculture, Mongolia

In Mongolia, the [Nutrition Status of the Population of Mongolia](http://www.unicef.org/mongolia/NNS_V_undsen_tailan_eng.pdf) Report (2017, Ministry of Health, UNICEF and National Centre for Public Health – see [www.unicef.org/mongolia/NNS\_V\_undsen\_tailan\_eng.pdf](http://www.unicef.org/mongolia/NNS_V_undsen_tailan_eng.pdf)) food insecurity is 64.7% and closely correlated with poverty quintiles. Vitamin D, vitamin A and iron are insufficient or deficient (especially vit. D). Obesity and overweightness is high and increasing. ADRA, IFAD, WB and other organizations in Mongolia have introduced diverse vegetable production to complement traditional “meat, milk and wheat” diets of nomadic pastoral culture. However, as the late Dr. Iftikhar in Pakistan noted, the “ruralization of the city” brings traditional culture to urban sedentary life where “junk food and drinks” add to the problems now being faced with infant/mother deficiencies, diabetes and other non-contagious diseases.

So yes, agriculture can help provide affordable diverse diets. But it is clear that media campaigns on TV, newspaper or with leaders/personalities are essential to promote culture change in line with the emerging lifestyles.

Kevin Gallagher/Future of Agriculture Virtual Think Tank in Mongolia

##  Stanley Weeraratna, Rain Water Harvesting Forum, Sri Lanka

Extreme poverty is a global challenge; it is observed in all parts of the world, including developed economies but mostly in sub-Saharan Africa and South Asia. According to World Bank data, in 2015, there were nearly 702 million people living in extreme poverty, down from 1.75 billion in 1990.  ["Global Monitoring Report; Development Goals in an Era of Demographic Change"](http://pubdocs.worldbank.org/pubdocs/publicdoc/2015/10/503001444058224597/Global-Monitoring-Report-2015.pdf) (PDF). [www.worldbank.org/gmr. Retrieved 4 November 2015](http://www.worldbank.org/gmr.%20Retrieved%C2%A04%20November%C2%A02015). Of the 2015 population in extreme poverty, about 347.1 million people (35.2%) lived in [Sub-Saharan Africa](https://en.wikipedia.org/wiki/Global_Monitoring_Report_%28World_Bank%29) and 231.3 million (13.5%) lived in [South Asia](https://en.wikipedia.org/wiki/Global_Monitoring_Report_%28World_Bank%29).

In a broader perspective, poverty is a phenomena occurring mainly due to insufficient income caused mainly by deprivation of employment and inadequate opportunities, incurable diseases, deformities etc. Considering the above situation, poverty can be defined as a general state of deprivation, having more to do with entitlement and capacity, rather than conventional indicators such as income and nutrition .Therefore, poverty means, the forms of economic, social and psychological deprivation occurring among people lacking sufficient ownership, control or access to resources.

Most of the people in extreme poverty are in the rural sector and their livelihood is mainly related to agriculture. Hence, agriculture plays a very important role in eradicating extreme poverty.  Most of the farmers in the two regions indicated above cultivate small extents of lands mostly 0.5- 1 ha which are of different topography. Some are hilly in which soil erosion is prominent. Their net income has been sliding down consistently due to a number of factors indicated below:

Soil productivity plays an important part in increasing/sustaining crop yields. A number of factors determine soil productivity. Among these are soil physical, chemical, and biological properties. In addition, soil erosion, soil management practices, climate also influence soil productivity.  Soil productivity tends to be reduced mostly by soil erosion caused by run-off. Continuous cultivation of crops in the same piece of land without implementing appropriate crop rotation programme, inadequate organic and inorganic fertilizer application also tends to reduce soil productivity.

In many countries drought, floods tend to cause crop losses causing extreme poverty.

In many countries good quality seeds and planting material are not available to small holders which tends to cause poverty.

Weeds, insect pests and diseases cause yield losses causing a reduction in the incomes of farmers.

High post-harvest losses.

High cost of production mainly due to high costs of inputs such as fertilizers, pesticides and labour.

Problems related to marketing.

Inadequate implementation of Agro industries.

The degree to which these issues/problems affect the small holder farmers vary considerably not only from country to country but also within the same country. For example,  in Sri Lanka, crop losses due to elephant damage and drought  in some parts of Sri Lanka is considerable which causes the farmers to continue to be poor. Floods in Bangladesh and droughts in India and sub-Saharan Africa have a devastating effect on the farmers’ incomes. Difficulties involved in marketing at reasonable prices and high post harvest losses in many Sub-Saharan African and South Asian countries also tend to exacerbate poverty. It is sine qua non that a comprehensive approach is adopted to increase income of farmers through appropriate actions with emphasis on increasing productivity to eradicate extreme  poverty in these two regions atleast by 2030.

Home gardening.

Home gardening plays an important role in alleviating poverty. A proper home garden fulfills the family’s food and nutritious requirement to a great extent and reduces the expenditure on food. It also improves the family’s food consumption pattern, minimizing the cost, maintains food and ecological safety through promotion of environmental friendly cultivation methods, encouraging youth to undertake home gardening and improves mental and physical health of family members.

Hence, Agriculture,  in addition to other factors, plays a very important role in eradicating extreme poverty.

Dr.Stanley Weeraratna

##  Nazrul Islam, M-Power, Bangladesh

In many countries of ASIA farmers have no easy access to get all sorts of required information from one hub. Big land owners are not farmers in Bangladesh. In many cases non availability of quality inputs, degradation of soil health, huge crop diversity, insufficient of location specific technology are hampering farmers’ crop production level. Moreover, there are also information gap among farmers regarding practicing efficient farming methods. To resolve this problem ICT came to an action in a strategic way. It is creating a scope for undertaking integrated approaches in production level as well as accessing market system.

##  FAO Publications

**FAO resources on poverty eradication and agriculture**

Here is a selection of titles proposed by FAO Publications for forum participants who would like to read more on poverty eradication and the role of agriculture

* **THE STATE OF FOOD AND AGRICULTURE 2017: LEVERAGING FOOD SYSTEMS FOR INCLUSIVE RURAL TRANSFORMATION**

This year’s report looks at rural and urban areas as a continuum, ranging from the farm level to megacities. With economic growth and population dynamics driving societal transformations, it emphasizes the dynamic roles that rural towns and secondary cities play in boosting the rural economy.
<http://www.fao.org/3/I7658EN/i7658en.pdf>

* **STRATEGIC WORK OF FAO TO REDUCE RURAL POVERTY**

Poverty is one of the greatest obstacles to human development and economic growth. Recognizing the diverse spectrum of poor rural households, FAO proposes a broad approach with differentiated strategies to help the rural poor move from low levels of labour status and productivity towards improved employment conditions.
<http://www.fao.org/documents/card/en/c/2a56eaba-b4b5-47cc-b8c7-937783e01e6c/>

* **MIGRATION, AGRICULTURE AND RURAL DEVELOPMENT**

The document sheds light on the role that sustainable agriculture and rural development can play in curbing migration pressure in rural areas. Together with its partners, FAO is committed to further strengthening its efforts on migration within humanitarian and development contexts.
<http://www.fao.org/documents/card/en/c/1f832358-2be7-4dd5-9bd6-198b8f96afea/>

* **SMALLHOLDER AGRICULTURE AND MARKET PARTICIPATION**

This report covers the evolution of policies for smallholder development, including the role of value chains. It proposes innovative mechanisms to improve the availability of financial services and reduce transaction costs.
<http://www.fao.org/3/a-i7841e.pdf>

* **COMBINED EFFECTS AND SYNERGIES BETWEEN AGRICULTURAL AND SOCIAL PROTECTION INTERVENTIONS: WHAT IS THE EVIDENCE SO FAR?**

This publication identifies interactions between agricultural and social protection interventions and shows the positive impacts of combined programmes on income diversification, food security and poverty reduction.
<http://www.fao.org/3/a-i6589e.pdf>

* **THE HOUSEHOLD AND INDIVIDUAL-LEVEL ECONOMIC IMPACTS OF CASH TRANSFER PROGRAMMES IN SUB-SAHARAN AFRICA. SYNTHESIS REPORT**

Using qualitative research and econometric analysis, this report analyses how unconditional cash transfer programmes impact crop production, agricultural inputs, labour allocation, risk management and social networks in seven sub-Saharan countries.
<http://www.fao.org/3/a-i6826e.pdf>

* **SUPPORT TO FAMILY FARMERS TO REDUCE RURAL POVERTY**<http://www.fao.org/documents/card/en/c/50c416f2-9b4e-42c8-96b3-f634cf72ea21>
* **LEAVING NO ONE BEHIND: ADDRESSING CLIMATE CHANGE FOR A WORLD FREE OF POVERTY AND HUNGER**<http://www.fao.org/3/a-i6371e.pdf>
* **ENDING POVERTY AND HUNGER BY INVESTING IN AGRICULTURE AND RURAL AREAS**<http://www.fao.org/3/a-i7556e.pdf>
* **REDUCING RURAL POVERTY THROUGH FARMER-TO-FARMER EXCHANGE**<http://www.fao.org/3/a-i5862e.pdf>
* **BOOSTING THE IMPACT OF SOCIAL PROTECTION**<http://www.fao.org/3/a-i8249e.pdf>
* **DECENT RURAL EMPLOYMENT, PRODUCTIVITY EFFECTS AND POVERTY REDUCTION IN SUB-SAHARAN AFRICA**<http://www.fao.org/3/a-i5432e.pdf>
* **FAO SOCIAL PROTECTION FRAMEWORK**<http://www.fao.org/3/a-i7016e.pdf>

## Malika Bounfour, Morocco

Dear forum members,

I would like to respond to this question by the facilitators

1) Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.

In my opinion, developing and encouraging food production in marginal areas should be the center to reduce extreme poverty. Local food production allows access to food and, sometimes, good nutrition. Around food production and through ages, markets and market systems developed. Unfortunately, these systems are on the way to being extinct due to competition from modern productions. For example, to harvest cereals or olives, some people use heavy machinery that is not adapted to mountains, destroys the soil and often owned by outsiders who allow its use against rent payment

I believe that the following constitutes key components to help lifting people out of extreme poverty in marginalized areas:

a. Capacity development to bring in the knowledge of new tools for food production. Ex drought resistant varieties of their usual food. Also, it is not enough to form cooperative. It is essential to develop a training cursus for cooperative management and food production;

b. Any intervention needs to respect culture. Ex Dont bring in new varieties of barley where people are used to eat rice. Development cost will be higher and results not guaranteed;

c. Develop local market systems to build the new tools and marketing. Ex. Develop harvest machineries that are adapted and teach the locals how to build them and market them locally. This could bring job opportunities for youth.

##  James Wabwire Agoro, UNHCR, Democratic Republic of the Congo

Micro franchising the key to Eradicating Poverty in Equatorial Region of Africa-Central African Republic & The Democratic Republic of Congo.

Natural resource management is critical to the eradication of poverty in Equatorial Region of Africa. This region is gifted with over 9 million square km of arable land and sufficient rainfall all year round in agricultural production especially crop production, livestock, fisheries and bee keeping. The natural environment has potential for crop production, livestock production and fish stocks and species that should be preserved, while being propagated to meet the global food needs.

It is important to look at the natural resources management and link technology to monitoring access to forest land for agricultural production through remote fencing. The idea being balancing global food needs and the capital monopoly in agro-business. When policies are developed to govern natural resource management, care should be taken that these policies do not affect food production. Let us take the laws developed in Central African Republic and in the Democratic Republic of the Congo around forest exploitation. There is a blanket policy of protecting trees from the local population, yet this policy does not seem to apply to multi-national companies that can pay the often punitive and deterrence license fees established to protect forests.  This policies stifles the local population to access capital from logging that would spur economic growth if it were to be allowed with stringent measures put in place to ensure sustainability.

The challenge that both Central African Republic and the Democratic Republic of Congo face is a double edged sword natural resource management policy that gullotines their economic development. The local population still operates an archaic subsistence economy, while competing with multinationals that operate a sophisticated international natural resource market that they (locals) cannot break in. It would be important therefore to organize the economy around natural resources that allows local population a chance to exploit, access to market through transfer of technology and linkages so that the natural resources can be of use to the local population and the global market. This was at the core of the Rio-De Janeiro Conference in 1992 principles 1&3 that stated that human beings are at the centre of concerns for sustainable development, they are entitled to a healthy and productive life in harmony with nature, while principle 3 states that the right to development must be fulfilled so as to equitably meet developmental needs of present and future generations. These two principles if adopted would engineer the implementation of natural resource conservation exercise and will unlock opportunities for poverty eradication.

While focusing on the rights of the local populations, there is also need to have the multinationals change their corporate responsibility policy. In many places in the Democratic Republic of Congo and Central African Republic, the corporate responsibility strategy of the multi-nationals is a pittance compared to the benefits they reap and the impact of their actions to the local communities. The corporate responsibility should rather instead of building clinics and schools that are poorly managed and end up being white elephant projects. The multinationals should commit to mentor the local communities to engage and break into the cooperate market that the multinationals are exploiting. These in itself will be a fast track into transforming the global market in word and spirit. This means, that multinationals should share part of their franchise and give the local communities micro-franchising opportunity so that they (multinationals) can do quality control of goods that are produced by locals under their franchise. In this way they mentor them to break into the Global market.

Transfer of technology and skills by multinationals engaged in agricultural productions in high potential zones of the Democratic Republic of Congo, in the production of coffee, tea, palm oil and other lucrative crops. The multinationals should transfer this technology to the locals in this way, low or cheap labour costs will be factored in the profit margins that the multinationals gain in these high agricultural potentials in the Democratic Republic of Congo and Central African Republic.

James Wabwire Agoro-Regional Livelihoods Specialist-Kinshasa

##  Prabas Bhandari, Nepal

Agriculture is only the sector having much more potential to reduce the poverty. Sustainable agriculture is one of the best form of agriculture to reduce the poverty. The rural farmers utilize the locally available resources as agricultural inputs in sustainable way without harming the eco-system. The impact of climate change have to face by the farmers. farming is the only the activity which started at first after civilization till to the date of the life on earth, that's why sustainable natural resources management is important for the eradication of poverty. As already said that the natural resources are the inputs of agriculture if the resources get imbalance then the agricultural production will be decline. The extreme poor people are really helpless they can't perform better without helping hands. In order to reduce the poverty and eliminate hunger, enough food production is necessary, for that selection of high yielding variety is necessary. The government and helping agencies should provide the support to the farmers.

Here i'm sharing an example of my village, there were some ethnics groups. They used to cut the fire wood and supply to nearby the city. Later on the community forest talk to the people not to cut the wood and choose next option for livelihood. The people choose the agriculture for the livelihood. They start contract farming in a group. The community forest also provide support to them. Now the are doing the job nicely. The earning and the production is also good. Now they are able to send their children to school.

This is my views/opinion about the role of agriculture in eradication poverty and eliminating hunger. Thanks

## Lal Manavado, University of Oslo affiliate, Norway

**The Role of Agriculture in Eradicating Extreme Poverty**

This is an attempt to offer a higher-level framework that may be freely fleshed out by different levels of authority to suit their particular conditions with respect to the available resources like people’s know-how, material and financial resources, political realities, and not the least, local soil and climatic conditions and their food culture.

First of all, it will be useful to look at what possibilities agriculture could offer in real life to alleviate extreme poverty among a given group, and to what extent they could be expected to succeed on the ground. At this point, another problem faces us at once, viz., can the extremely poor with their present skills successfully make use of the resources that may be made available to them to improve their lives?
Once again, our lack of consensus on a sound definition of poverty becomes the greatest stumbling block to progress. I have consistently rejected the untenable notion of ‘measuring’ poverty in monetary terms. It may seem facetious to say, “you can’t eat Dollars and hope to live.”, but this is the implied belief of every poverty measurer who uses the Dollar tape to measure human deprivation.
Let us admit the obvious at the expense of unjustifiable inherited notions of poverty, just as many a supernatural belief has been consigned to history books. Poverty represents deprivation of any one or more of our six fundamental needs, viz., nutrition, health, education and security in their inclusive sense, procreation, and a set of non-material needs. They are non-material, because satisfying them does not entail any material gain, æsthetic appreciation of literature, music, art, sports and games, entertainment, etc., are example of this.

Now, when one is extremely poor, it implies extreme derprivation with respect to any one or more fundamental needs. It is here that a major difficulty arises, for if faced with a great difficulty to meet any one of the first four needs, i.e., nutrition, health, education and security, its ill effects adversely affect one’s ability to meet the three remaining needs.

Let us begin with nutrition. A malnourished person is often predisposed to contracting a variety of diseases, finds it difficult to acquire know-how, and is both tempted to steal food thus threatening someone’s security, and is unable to do much to ensure the collective security of a social group. As one is increasingly deprived of the possibility of adequately satisfying one of those four needs, one becomes correspondingly unable to satisfy the remaining three needs. When this evil has happened, it is impossible to ascertain with any degree of tenability what deprivation triggered off the final state of misery and squalor.

Agriculture emerges here as one of the vital means of ameliorating not only nutritional deprivation, but becoming a useful tool to enable people to meet the three other crucial needs, viz., health, education and security. However, while good nutrition offers many health benefits, its impact on our ability to satisfy our educational and security needs are indirect. It is crucial to understand this and act accordingly, for adequate satisfaction of each of those four needs is a necessary condition for being able to satisfy the other three. This is a logical fact that cannot be questioned by justifiable argument.
Indirect satisfaction of a need involves mediation of an exchange of values like trade as an enabling method. For instance, one may sell some of one’s agricultural produce, catch in the case of a fisherman, etc., to get money to purchase what one needs to meet some of one’s health and educational needs. Tax from such income would enable some central authority to ensure general security while individual may take care of some security issues like that from inclemencies of the weather (shelter and clothing) at one’s own expense.

I have gone on about this to underline the unavoidable necessity of having to address at least four of our fundamental needs simultaneously if we are to make a significant impression on extreme poverty. As action of FAO and its affiliates is primarily directed at nutrition via agricultural pursuits, I will devote most of the following comments to nutrition, but would make some observations on how it may facilitate improving the people’s ability to satisfy the three other fundamental needs through the mediation of its sister organisations.

I will take up the latter first even though both lines of approach ought to be pursued synchronously if optimal results are to be achieved. While the nuts and bolts of the actual field work needs careful assessment for its relevance and appropriateness, one can still envisage some pathways FAO might explore to ensure its efforts in food production and wasteless consumption are either much enhanced or made at all possible. For instance, in some cases where lack of security is acute, no progress in agricultural production may be made until and unless that issue has been resolved even though wide-spread abject poverty and starvation may prevail in affected areas.

Perhaps, FAO ought to be more proactive in its work with the UN even though the current procedures may limit its possibilities. In any event, as general security has a major impact on food production and related pursuits, and as food supplies criss cross the world, it is in every country’s interest to underline this, and take some pragmatic action to secure peace.

I know that the WHO and FAO closely cooperate to combat diseases connected with diverse forms of malnutrition, and especially the so-called NCD’s. However, this cooperation would be even more fruitful if it would be extended, because malnutrition at its earlier states often makes its victims predisposed to many kinds of disease including infections and parasitic infestations owing to their reduced resistence to them. Such inabilities makes it difficult for the already poor to engage in agricultural work or acquire new skills.

It requires no expensive ‘research’ to know that the agricultural skills among the extremely poor is often rather limited. FAO in conjunction with UNESCO may launch relevant and appropriate training programmes to raise the target group’s agricultural skill level. However, no training scheme will succeed unless the trainees receive a decent diet during their training. Hungry and malnourished ‘students’ are beyond pedagogic theories, while full bellies would often make them receptive learners. It would be salutary to remember that successful cultivation of earth requires down-to-earth programmes.

Two other areas that would repay the FAO in the present endeavor are cooperation with the World Bank/IMF in order to secure very low interest loans for the extremely poor to procure the necessary land and other requisites for agricultural pursuits. Here, cooperative enterprise rather than competitive trade should be adopted in order to avoid dog-eat-dog competition that characterizes what is called agro-business in the developed nations, where deserted farms and monoculture seem to prevail. After all, it is obvious trade competition would result in losers i.e., poverty-stricken farmers, something the current effort is designed to avoid.

It is not very obvious how FAO might enable the target group to obtain secure land tenure, which is a prime necessity here. I believe all international bodies should work in unison to encourage countries to institute an enforceable legal framework to guarantee the land and other rights of those engaged in agricultural activities. In some areas, this is of crucial importance, while in others, some progress has been made.

Our last necessary condition for successful application of agriculture to benefit the extremely poor is the improvement of suitable infra-structure and availability of appropriate and relevant technology. Let me emphasise that the last item does not involve the so-called ‘cutting-edge’ or the latest implements or electronic gadgetry. It is far more important to build a sustainable irrigation installations, provide crops and animals suited to a given climate, soil and local food tradition than to spend money on an expensive network of transmitters to provide cellular telephnony to youth who are often functionally illiterate.

Most people might find the foregoing very obvious, but even a casual look at a considerable number of efforts to render agricultural pursuits means of earning a decent income for both rural youth as well as others, have failed to meet our expectations precisely because they have not paid sufficient attention to the above necessities or because they have overlooked the vital importance of relevance and appropriateness of the methods used.

Now that we have cleared the ground of most important disabling factors, let me concentrate on activities directly connected with agricultural pursuits which may be used to help the extremely poor towards better living conditions. Provided that adequate resources are available, the envisaged activities should conform to the following requirements as much as possible if a successful result is to be achieved. Here, success will be measured according to its sustainability and its qualitative impact on the life of the target group.

First of all, we need to ascertain certain facts before undertaking concrete action in order to ensure that they have a reasonable chance of helping the very poor in a meaningful way. The following is a non-exhaustive check-list to be used to screen the suitability of the target groups and the agricultural pursuits proposed:

1. Location of the target group; obviously, extremely poor slum-dwellers in big cities will have no access to sufficient grow-areas to engage in agriculture per se, but they might be assisted to engage in retailing agricultural produce on a cooperative basis provided that they are protected from being bought out by some chain of retailers. Here, ‘free-trade’ really frees the poor from any chance of earning a decent living by trade. Whenever it is appropriate, small family run restaurants/cafes/bistros, etc., where home-cooked hot meals may be sevved at a reasonable price.
2. Procurement of produce by such small retailers and cooked-food outlets should be linked as directly as possible with the food producers. Farm and fisherman’s cooperatives seems to offer the ideal choice, for it avoids the long middlemen-chain, thus ensuring a fair price to the food producers and end-users, and enables the retailers earn a decent living. Moreover, it gives the food producer the power to dispose of his produce through a fair exchange of values, and avoid delays. These two lines of action assume a reasonable level of security, a sufficiently adequate transport system, and financial and other resources needed for the purpose.
3. In order to counter waste of food due to spoilage in transist or storage, it is often necessary to preserve some food items before storage and transport. I suggest as much of this ought to be undertaken on or near where the food is produced, so that such facilities could provide a source of employment for the local poor. As for preservation methods used, one should be careful to use technology familiar to most such as drying, salting, smoking, etc, which are often required by the local food culture. Such methods are effective and inexpensive, and easy to learn and improve. Moreover, their storage does not require costly refrigerated installations that entail expensive running- and maintenance costs.
4. This is not to deprecate the value of freezing and refrigeration as sound methods of food preservation. But, if we wish to stay down-to-earth and recall the skill levels of the very poor, what resources are actually available, it will be agreed that a combination of simple time-proven methods of preservation and quick transport are a more realistic way forward. Transport of non-perishable items ought to prefer water and rail transport owing to their great advantages over road transport, as they can often employ the relatively unskilled poor.
5. After this sketch of food distribution, transport and preservation, we come to its production. Stating the obvious, unless the three above conditions are satisfactory, food production cannot succeed in enabling us towards our goal. At this point, I will reject the idea of concentrating on cash-crops for the extremely poor cannot improve their lives just by having an income from such crops, because a balanced diet they need for the purpose will have to be grown/harvested somewhere, and not enough food is produced in countries where extreme poverty is endemic.
6. Before we proceed to food production/harvesting, it is vital to establish a reliable link between food outlets and producers/harvesters like fishermen. If we wish to achieve our goal, the purpose of such a link would be provide information that benefit three groups of people, viz., end-users, food outlets and the producers/harvesters. They will be benefited if they can engage in a fair exchange in values and not by competition where some well-informed producers try to exploit the demand for food for higher prices rather than sharing a given demand more or less fairly among all the producers of the same item. This unfair practice is precisely what promoters of rapid ‘market information’ advocate through the use of cellular phones and software by the rural poor! This merely adapting the high-tech methods of agro-business that has led to abject poverty among the rural farmers in the first place.
6. Therefore, I suggest the establishment of independent national and regional market monitoring bodies that could advice the production cooperatives on what is needed and where. They do not have to have huge bureaucracies, and local people could be consulted often on their food needs and the availability of dietary items. A walk down the lanes of a town or a village is often more informative about its food needs than the most sophisticated ‘market-theory’ predictions.
7. Once the sustainable food production/harvesting appropriate for an area has been ascertained, the next step would be to ensure a reliable mode of financing the actual work. Naturally, how much is needed here, depends on the following:

I. Relevant and appropriate equipment, training, types of seed and animals needed to initiate the action.
II. Construction of storage, processing, irrigation, etc., facilities required.
III. Cost of infra-structural improvements.
IV. Support period needed before a project could become self-sustaining.
V. Enforceable anti-corruption measures.

Once we have come this far, it remains to select the participants and assign them to roles for which they have some aptitude before initial training begins in earnest. Here, I am convinced that formal education is an advantage, but it is not essential for the work in hand. The poor are eager to leave their poverty behind, and concrete action that yields results within a reasonable time, is what is needed to attract and retain them in their jobs.

On-the-job vocational training could be supplemented by formal education for few hours twice a week, or as often as it does not interfere with job training. It may prove motivating to teach them that agricultural pursuits are among the most important things a person could do, and it it deserves real respect unlike many a vaunted profession.

In the discussion so far, many contributors have made suggestions applicable at the ground level. However, it is important to ascertain their relevance and appropriateness to the people and the place involved before they are taken up. What I have tried to do is to outline a possible way of using them in a holistic manner. I hope it would be of some use.

Best wishes!

Lal Manavado.

##  Mohammad Abdul Mazid, IFPRI/HarvestPlus Washington, Bangladesh

Food and Nutrition security of ultra poor (about 10-12 % of total population) and poor where hard to reach them by Micro Credit Program) is really an issue. We should reach them through safety net programs as well as ensuring assets transfer, employment generation, links with basic health service, WASH & hygiene and education. Moreover marginal farmers (at least 50 decimal land) and small land holders (51-100 decimal) in Bangladesh and others who have land for integrated crop, livestock and Fisheries program with ICT based technology delivery, quality inputs supply especially biofortified nutrients rich crops like high zinc rice & wheat, Provitamin "A" rich (high beta carotene) orange flesh sweet potato & Maize and iron rich lentil & beans etc. There are potential and very important for human consumption especially for under 5 childs, pre primary school or kinder garden school and primary school feeding, adolescent girls & boys and adult women are priority. Moreover, video based training (whole family) followed by ICT based monitoring and feedback for ensuring Food and Nutrition security, improving livelihood and sustainable.

ICT based Technology delivery, asset transfer and inputs supply in group approach for ultrapoor, poor, marginal and small holders and effective monitoring and feedback are limiting at this stage in Bangladesh. There are cope and huge potential for expansion of nutrient rich bio fortified crops to targeted peoples in safety net programs in Bangladesh and beyond in Asia and Africa.

Take care and best regards

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Krishibid Dr. Md. Abdul Mazid

##  Ana Paula de la O Campos, FAO, Italy, facilitator of the discussion

Dear Members of the forum,

Thank you once again for your contributions. You continue to raise very important points in relation to making agricultural interventions reach the poorest of the poor, which is challenging. Also, thank you for pointing to specific case studies from Kenya, Pakistan, Cameroon, Belgium, and others.

Some of you have pointed to the fact that the poorest have very little land and few or no inputs, and therefore, dedicated programmes are needed to reach them, using a multidimensional approach: cash transfers, asset transfers, credit, skills development, continuous support, and empowering structures such as self-help groups and farmer organizations. The land access question is also fundamental and it is also very difficult to address from a policy level.

Thank you also for pointing out the need to understand poverty from a multidimensional perspective. Income measures of poverty are less useful when trying to address the drivers of poverty, particularly when looking at agricultural interventions for the poorest. I think that a better understanding of how poverty manifests itself in rural areas is still much needed, and these diagnostics need to be participatory, but also the process needs to be empowering.

The role of nutrition in the eradication of extreme poverty is fundamental. Several studies point to the fact that despite progress in poverty reduction, nutrition is not a given. It is the “hidden poverty” as some of you have mentioned. This is an invitation to reflect on the state of our food systems and how we could make them more beneficial from the nutritional point of view, but also from the employment generation and suitability of resources. There will be trade-offs for sure, but giving more value to the “basics” of a sustainable healthy life should be at the basis of policy making, which is reflected in our Agenda 2030.

Also, thank you for pointing the role that FAO has in advocating for sustainable peace. Conflict affects food production through the loss of land, infrastructure, and the displacement of farming communities. In conflict situations, poverty reduction efforts become more challenging, including the strengthening of local institutions who are the ones making development sustainable in the long run.

I look forward to reading more of your contributions during the last days of this discussion.

Ana Paula

## Amanullah, Department of Agronomy, The University of Agriculture Peshawar, Pakistan

Climate Smart Agriculture Practice (CSAP) and Best Agronomic Practices (BAP) including integrated crop management, integrated nutrients management, integrated water management, integrated weed and pest management practices improve soil health, soil fertility, soil sustainability, crop productivity, crop quality, growers income; and reduce water and soil pollution thus improve health of small and poor growers. The FAO and other international organizations must sponsor the projects of faculty and researchers in poor countries to achieve the sustainable development goals, thanks.

Dr. Amanullah

## Olutosin Otekunrin, Federal University of Agriculture, Abeokuta, Nigeria

Dwelling on the discussion on #what set of policies are necessary to address issues concerning food security and extreme poverty eradication in rural areas?

Empowering the smallholder farming households and other key factors would not be out of place in achieving this goal. About two-thirds of the developing world’s 3 billion rural people live in about 475 million small farm households, working on land plots smaller than 2 hectares. Many are poor and food insecure and have limited access to markets and services. I believe these smallholder farmers are critical stakeholders in ensuring food security in our economies owing to the fact that when they are given proper interventions and also considering other germane factors, they have the potentials of reducing if not eradicating extreme poverty in our rural areas. These suggested policy interventions include the following;

1. Proper access to nutritious food through comprehensive approaches to food and nutrition security:

 Policies, programmes and investments geared towards strengthening food and nutrition security on the part of the smallholder farmers should aim at: (a) focusing on access as well as availability of foods, (b) recognizing the importance of diversified diets made up of nutritious foods, especially for pregnant smallholder farming households and young children, (c) preventing excessive food price volatility, (d) enabling poor smallholder farming households access both social protection and social services, and ensuring that the services contribute to adequate child care and feeding practices, and mother and child health care services, with sufficient access to clean water and sanitation. All forms of malnutrition – including nutrient deficiencies and obesity – should be addressed. This means dealing with the global transition to high energy and low nutrient diets and the shift away from unhealthy food consumption patterns.

2. Identifying the key role of agriculture and rural development in eliminating extreme poverty, hunger and malnutrition:

 Smallholder farming households are essential and critical contributors to resolving these challenges which are most pronounced in rural areas. Adequate provision of necessary public goods and support to raise rural incomes and productive capacities, giving them the opportunity to participate actively (both in input and output markets) and benefit from national and international markets And also, in pro-poor development through investing in rural economies, both farm and nonfarm.

3. Maintaining enduring investment in agriculture and food systems:

Enduring investment can be strengthened by (a) recognizing that the main investors in agriculture are the smallholder farmers themselves, (b) engaging smallholder producers and their organizations fully in the design and implementation of national strategies for agriculture and food security, (c) ensuring their secure tenure of land and improving their access to improved technology and innovation, (d) ensuring they benefit from key public goods - market infrastructure, price stabilization instruments (for both producers and consumers), affordable financial services, and functioning extension services. This calls for a combination of public and private investment involving farmer associations, agribusinesses, government, civil society groups and sources of financing.

4. Prioritizing on food security and post harvest losses along value chains:

 Virile functioning of interfaces between food and health systems will lead to reduced risks of disease, especially for food that are unsafe for human consumption. This is increasingly relevant as ecosystems change, due to climate change or human activity. Moreover, there is universal concern over post-harvest processing and handling losses and food consumption waste: they undermine the sustainability of food systems.

5. Building resilience to natural and man-made disasters: Poor rural and urban societies experience crises – such as those linked to volatile food prices or climatic shocks – with increasing frequency threatening their food and nutrition security. The sustainability and resilience of their livelihoods can be reinforced by developing a range of capacities and entrepreneurial skills, promoting non-farm rural employment and empowering smallholder farmers (producers) to diversify their on-farm and off-farm activities.

6. Ensuring agricultural food systems sustainability and climate sensitivity. As demand for food increases – as a result of population growth, urbanization, and changing dietary habits (dietary diversity), greater attention is given to the ecological footprint of agriculture and food systems. What are the options for enabling these systems to be socially, economically and environmentally sustainable, while becoming more productive and nutrition-sensitive? The dilemma is faced by all nations and issue of changes in climate, which is currently threatening agricultural production. Climate-sensitive agriculture makes growth more sustainable, while improving the management of ecosystems, including soils, forests, water, fisheries, oceans, watersheds and biodiversity.

Empowering the women smallholder farmers:

Smallholder farming households (Women) are very important in the food production and processing value chain. Equally, they are the drivers of change in ensuring nutrition and food security in the farming households. If women had the same access to productive resources as men, agricultural yields and output would increase and there would be a significant reduction in the number of impoverished people especially children. These women smallholder farmers may be empowered by enhancing their access to credit and control over land and other productive resources. Also, ensuring that women smallholder farmers are able to overcome institutional, social, and economic bottlenecks. Furthermore, Investing in the nutrition of women and their children and ensuring active participation of women in decision-making at all levels: from the household to public policy and development planning. By focusing on equity of access or opportunity, decision makers emphasize the interests of vulnerable people.

## Florence Egal, Italy

I have read with interest the contributions and attempted to answer the questions. Apologies if this is off track. In general I am missing a chronological/historical perspective at local level: when did extreme poverty appear? why? how did people attempt to cope?

*1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.*

Two questions:

* What do we mean by agriculture? If we include food processing, marketing and catering, but also eco-system services, eco-tourism etc, we stand a much better chance to improve the livelihoods of extremely poor households – in particular those with limited access to productive resources - and to contribute to sustainable local development
* Who are the extremely poor people? Smallholder farmers who have fallen in destitution – often because they have lost their access to productive resources -, landless labourers, migrants from rural areas? Or people who have never been involved in agriculture before but re-engage in agriculture-related social and economic activities (e.g. community gardens, social and solidarity economy)?

*2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?*

The productivist approach to agriculture development and the economic model which have been promoted in the last decades have often ignored sustainability and led to the degradation of natural resources (soil, water, forests, biodiversity) but also to the marginalization of vulnerable households, increased socio-economic differentiation and disruption/erosion of traditional social networks. Social and environmental issues are closely related. Agenda 2030 can only be reached if we ensure that the social, environmental and economic dimensions of development are jointly addressed.

*4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?*

I am not sure why we should limit ourselves to rural areas. Food insecurity and extreme poverty exist in urban areas and in a context of accelerated - transitory and permanent - migration, it is increasingly difficult – and counter-productive - to draw the line.

We should first identify the policies responsible for increased food insecurity and poverty at territorial level, modify them and proceed with the necessary adaptation of the legal and regulatory framework.

We should adopt a territorial approach and promote sustainable local development, giving priority to local markets and resilience and generating employment in post-harvest activities. Identifying and reviewing promising practices and feeding them back into policies and programmes (including removing regulatory and legal obstacles), as well as participatory planning and capacity-building of local institutions will be essential.

## Joel Ruvugo, JSR Traders, United Republic of Tanzania

First of all one has to recall that agricultural interventions are formed by the governments’ policies and politics and that no one fits all; moreover, there is not one best approach to eradicating extreme poverty in low income countries. Extreme poverty afflicts the populations living in these countries. Social and economic are the principle pillars to sustainable development in any given setting.

Agriculture is the backbone of population health nutrition and therefore, food insecurity leads to poor population health that causes inability to execute agricultural interventions in sustainable manner. With this note, eradicating extreme poverty needs integrated interventions that leverage streams of problems, policy and politics. The act of integrating problems stream, policy stream and politics stream must establish coordinating mechanism as a process by which society promptly determines who gets what and where, when they get it, and how they get it in the very local settings.

By leveraging the streams of problems, policies and politics; one can know why the problem of extreme poverty exist? The policy stream enables the actors to create various solutions to solve the policies problems. The coordinating mechanism must be in position to ensure the politics stream accepts policies intending to solve the existing problems.

The coordinating mechanism to eradicate extreme poverty must formulate analyze concepts and theories related to agricultural policy issues, be able to evaluate public policies and their effect on agricultural delivery. Sustainably analyze ethical, legal, social, economical, technological and any implications at local, national, regional and international level.

The coordinating mechanism must be empowered to analyze agricultural policy research and be aggressive to differentiate options for agricultural reform. Demonstrating the use of a positive political strategy to influence agricultural interventions and analyze strategies for empowering aggregate and communities to influence agricultural policy to eradicate the extreme poverty.

Allow me to share with you this file on What Makes African Development Projects Fail? Joel Samson RUVUGO, President of EBAFOSA Tanzania 2017, <http://tinyurl.com/yc639chs>

## Brandon Eisler, Nutritional Diversity, Panama

Amazing aids of nature go totally unrecognized by us humans, who fail to realize the intelligence of nature, hoping for us to all succeed and trying vigorously to help us. For example :

(1) When people cutaway the forest to make their home or town, interesting new plants take hold over the recently cleared area, different than those that were removed.

Foods Gifted From Mother Nature in Our Back Yard

Once we clear and area for shelter making, or space for livestock, a new spread of shrub plants comes in for cows and goats and us, as if, a waiter in the restaurant of miracles brought it to us.

Dandelions, culantro which ends up getting mono-cropped too, water cress, certain mints, chamomile, are some of these ‘gifted’ species that people are familiar with and there are many known livestock targeting elements that come in also after clearing living areas, such as pasture grass for cows. There is a lot of benefit in these areas that is unemployed simply because we have not tested everything and do not know what the unknown plant’s qualities or toxic properties are. Many of these plants seem clearly gifted by nature (really the ultimate intelligence that is behind the form of our world), powerful healing and helping herbs to us; the forest clearing primates.

Could the answer to the potential food crisis be all around us? A simple additional bit of knowledge to tell us what part of the jungle, the forest, the permacultures of God, exactly that we can ingest and in what dose. Remember that random eating of things without testing them and having expert level knowledge of the plant can kill you. Could it be that if you eat even these highly toxic plants, inside of a sufficient nutritional diversity, that the toxins become neutralized? With sufficient nutrition is there a highly powerful digestion process that can deal with one toxin among the many different diverse essences? Is the jungle digestible by humans at all? Are we ready to ingest it? Can it be ingested, with training, and digestive mechanism development such as seen in ketogenic diet examinations. Is it better nutrition than what is in the store? Stronger? Is it a pesticide and herbicide toxin free? Can we simply eat from God’s permaculture? Surely, we just don’t know what most of it is or how to utilize it, unlike filing bark for cinnamon powder which we have been taught for generations.

Crop Selections & Farming Methods

(2) Another example of failing to realize useful natural preparations in respects to food crisis prevention is over looking tree’s like the Jackfruit Tree, the Breadfruit Tree, the Mango Tree, and the Avocado Tree, and of course permaculture farming methods. There is really no excuse for such a avid food crisis wave that crashes around the globe variably. We should have total food security, no problem, I have named a few for the tropics, but there are millions of highly productive edible species, that can be grown in permacultures everywhere, shopping markets are the most insane facet our stupidity, and not one of us has any chance in modern social culture of figuring that out by ourselves. How many of us today in 2018 have the time or selflessness to plant trees, that won’t fruit for several years? I have a lot of trouble assessing why namely the Jackfruit is not seen in the crazy markets everywhere the stuff is delicious, comes in vegetable state, fruit state, the seeds are great food, it is highly nutritious and one tree produces up to 2000lbs a fruit a year. It even has very industrious and marketable timber. Insanely productive tree is missed by agriculture study almost completely, while centrally distributed glyphosate plastic looking seedless foods flow through our kitchens and stomachs all day long. Much of this food is made in a factory and far from natural. We are crazy, and greedy or so greedy we are crazy or I don’t know but we are poising ourselves and the results are in. In respects to proper nourishment algae, mushrooms, and many many other elements are just completely overlooked in most looks at food crisis.

In the face of not just food crisis, but forestation crisis (which is also now) can I recommend honey? Bee farming, can help rejuvenate the earth, is easy to do and produces lots of honey that can help sustain healthy life.

More Insanity

(3) The nutritional and human health crisis often times has a lot to do with the lack of diversity in diet. Lack of knowledge and simple tools for cleaning water, and consuming a diversity of elements, is largely responsible for malnutrition deaths in poor areas. If a human only consumes a few things, they are not consuming sufficiently whereas several cultures do exactly that and interestingly have done for a long time. Something that really shows have strong the human organism really is, to be able to sustain generations on inadequate and insufficient eating.

To act like humans could possibly run out of food on this earth, is ludicrous. People can simply become nomadic, leave the cities and eat from the Garden of Eden. This is the only way to be free.

To discuss population control, global warming, climate change, food crisis, is to be somewhat of a human monkey, that lacks imagination, vision and the intelligence to see our race progressively advance in a healthy way.

I am committed to continue working to working on the Nutritional Diversity Answer to human health and frankly harmful human codependency issues that stand in way of our natural human cultural progression.

## Nickson Omutelema, Ministry of Agriculture, Kenya

In Kenya, small scale farmers try arrowroot farming which has been an orphaned crop for many years. It requires less management skills and is not so demanding in terms of farm inputs.

## Stephen Dania, Ambrose Alli University, Nigeria

Sir, Agriculture is the main stay economy of rural dwellers. The rural dwellers are not only poor financially, but poor in innovative ideas, technical know how and in Agricultural input. However, to eradicate poverty, the following steps are to be taken:

(i) Employ the services of extension agent that will expose farmers to innovations in Agriculture, use of hybrid animals and improved seeds, inorganic and organic fertilizers.

(ii). Financial aids from governmental and non governmental organizations with no interest to encourage increase in production.

(iii). One of the greatest problem is market for produces. The farmer suffer waste of farm product due to no buyers or buying at very low price at the farm gate that may not even up to the cost of production. The government should be able to buy this products from farmers at a reasonable price that will encourage increase in production.

(iv) Provision of storage facilities.

(v). Access roads and transportation facilities. (iv) Provision of basic social amenities in rural areas.

Dr. Dania Stephen Okhumata

Ambrose Alli University, Ekpoma

## Sonali Phate, Kamalnayan Jamnalal Bajaj Foundation, India

Wardha district is one of the 35 districts in Maharashtra state in western India. This district is part of Nagpur division. Wardha is primarily an agriculture oriented district. Cotton farming and soyabean cultivation in kharif is quite common. Recently the district has been in news because of a number of suicides that have been committed by the farmers owing to the agricultural loans they cannot repay with the major reasons being bad crops, droughts and lack of irrigation facilities in the region.

Kamalnayan Jamnalal Bajaj Foundation (KJBF) in Wardha is doing many activities for rural people's betterment. These activities are aimed at protection of natural resources, agriculture, social progress and providing options of livelihood. Integrated approach of all these activities led to reducing poverty in the villages.

The main livelihood support i.e. agriculture should be supplemented with agro processing facilities and direct outlet for the farmers to sale their produce. Mono cropping has its own drawback of making the agriculture dependent on middle person driven forward linkages and loss of bargaining power by the farmers. Small and marginal farmers are the most affected. Second most important think is small and marginal farmers do not have storage space to hold the farm produce and wait for profitable market price.

KJBF has successfully take up the promotion of multi cropping to minimize the risk of total crop failure as well as making the things easy for farmers to sale the produce in weekly markets. Every year Grain Festival has been organized to build direct consumer linkage which has led to opening of permanent outlet at district place where farmers began to sale fresh vegetables, fruits and other agricultural produce. This is improving their profit margins and they regain their bargain power. They need not to wait for season end to earn money. They are earning almost every day and thus relieved from financial distress. Besides KJBF is also helping the families to establish small scale processing units for the crops cultivated by them. For example, processing of wheatm sorghum into Papad, Chilli and tamarind into Chatani, fruits into pickles, etc. This is not only the value addition but also generated employment opportunities for the landless poor families of the village. Thus agriculture can reduce poverty in the village. The following case story illustrate the same.

**Rural Poor Family Striving Hard for Sustaining Livelihood**

Maina Dnyneshwar Vasu is 55 years old living in village Pimpalgaon of Deoli taluk of Wardha district and is a member of Shri. Swami Samarth self-help group formed in 2009. She has 2 sons. Both of them are married. Elder son lives separately in the same village with his family while younger divorcee son lives with them. They own 5 acres of irrigated land. Her husband could not help in farming as he is suffering from health problems.

Since last 15 years they are living in the farm in a small hut. Repeated failure of crops in the past few years made their conditions miserable. Their present financial condition could not support the farming. They even could not afford any fan inside the house. Maina lacks the access to proper health care services due to poor financial conditions. They also do not have ration benefits as they come under OBC category.

Maina is guided to initiate an income generating activity for improving her financial conditions during SHG meetings. She was confident that Garam Masals prepared by her would impress the consumers and so she began to sale this product since 2014. Her son Manoj began to sale the Garam Masala in the village and nearby villages on his bike. He also began to sale Sabudana and dry coconut along with homemade Garam Masala. As a part of marketing strategy, he sale the quality products at a comparatively cheaper price than available in the village grocery shop. He earns Rs.400 weekly through this income generating activity. For further improving the income Maina thought of selling Groundnut Laddu, Sesame laddu and mix Groundnut and Futana Laddu. She was helped to try out these products in the market during organization of mass gatherings by KJBF.

KJBF representative further guided them to adopt practices of zero budget natural farming for cultivation of their land. They are also motivated to collect the quotations of the required machineries and having a business plan. They were supported with the required finance through revolving fund by KJBF.

Now they are growing onion, chilli and coriander seeds required for Garam Masala along with sun hemp, cotton, pigeon pea and vegetables. They are selling Sharbat of sun hemp flowers which is medicinal and protect from sun stroke. They sale vegetables at village level. They were helped to develop market in Nagpur and Wardha by rendering them opportunity to participate in Agriculture exhibitions. Now their monthly income has raised to Rs.15000 and they are planning to reconstruct the house and could afford the medical care. The most important is the happiness and smile which the family has regained.

## Suzan Donald, Szanna Farm Cottage, United Republic of Tanzania

Encouraging the extreme poor to engage in production of leafy vegetables,

From my experience extreme poor people who own land and don't know how to deal with it, thus they end selling their property to the people who area likely to go to produce large farm plantations and live them off in their poor condition. Instead educating them about agriculture on the basis of vegetable production will facilitate reduction of poverty and will enhance nutrition and food security.

In my opinion, small to large scale farming, situated near the extreme poor should provide knowledge, training and organizing farm groups to them on how to cultivate crops for their own use and surplus for sale.

## Costas Apostolides, EMS Economic management Ltd, Cyprus

Integrated Development with Diversification of Employment

On the basis of experience in Cyprus on rural development projects, undertaken in cooperation with FAO Cooperation Programme and the Word Bank, the formerly fashionable INTEGRATED RURAL DEVELOPMENT PROGRAMS IN THE 1970, AND 1980’S present the best approach, because they provide for rural areas needs in access to essential services (health, education, extension serves, research etc), but should be broader to diversity employment, and include agriculture within the concept, not only in production, but marketing, research and development also. When work began in Cyprus on the successful Pitsilia Intergrated Rural Development Project, the analysis showed that very little agricultural research and innovation was focused on the low income mountain areas. In addition agriculture and nutrition were not integrated into the education system, which of course was under a different ministry, that of education with different priorities.

Later on within an EU project called LIFE a group of specialists from several disciplines was asked to develop a model for development of rural areas. The model presented was relevant to the Mediterranean region,where strong village communities often undertake initiatives. The basic idea is to link agricultural production with marketing, product research, and treat the village or the area/region as a brand. This requires the following:

1. Quality control of the quality of both agricultural products and agro-industry products.
2. Identification of unique products of the region and marketing them i.e. bottled quality water, Pissour halloumi which is halloumi cheese with the addition of mint.
3. Identify areas for research on new products, to diversity what is offered. For example GLUTEN FREE products are now fashionable both for medical reasons, but also because they are considered better for digestion etc. Quinoa has developed as a product in this respect, but are conditions suitable for it and how can it be marketed?
4. In schools at all levels nutrition should be taught and practiced, that needs coordination.
5. Agriculture should also be taught and practiced in the schools.
6. Communications and roads need to be developed both between villages and towns but also to the fields, facilitating mechanization and reducing costs and opening up new opportunities, such as rural tourism.
7. In short an intergrated approach that improves peoples lives, allows greater security of income through diversification, and links social services, agriculture, agro-industries, marketing and research.

Costas Apostolides, Cyprus

## Adebayo DEPO, IADR, Togo

English translation available soon

Bonjour

1. L'agriculture doit être faite actuellement autrement et quelques soient les moyens mis en oeuvre il faudrait qu'elle puisse apporter aux bénéficiaires des revenus et des marges conséquents. Ceci prend en compte l'espace cultivable, la richesse du sol, l'approvisionnement de la matière première et autre même le marché sur lequel les produits récoltés seront déversés. A l'heure actuelle l'agriculture pourra pas faire sortir les gens de l'extrême pauvreté si tant est que ces agriculteurs dans l'extrême pauvreté n'arrivent pas à avoir les autres produits de première nécessité parcequ'ils sont les plus triché dans la transaction et que le dernier sur la chaîne de valeur gagne plus que ces agriculteurs. Il faudra une politique agricole et économique bien soutenue pour pouvoir faire sortir les gens de cette pauvreté. Les ménages qui ont un accès réduit aux ressources doivent trouver une autre alternative sinon risque n9n pas de sortir de cette pauvreté mais de s'y enchaîner. Ces ménages doivent plutôt se trouver une place entre ces agriculteurs et le marché pour pouvoir subvenir à leur besoin.

2. Quand les ressources naturelles sont bien gérées et avec equitabilité dans le partage nous pouvons nous attendre à une amélioration des conditions de vie. Alors tous ceux qui partagent cette ressource pourrons vivre de ça et même se fait de revenu si tout ce qui la partage ont le même droit par rapport à son utilisation.

3. Oui ceux qui n'ont pas la possibilité à se consacrer à la production agricole peuvent bien nourrir par l'intermédiaire de ce secteur. Ceux ci ont besoin de se positionner sur la chaîne de distribution pour faire partir des intermédiaires du circuit de commercialisation ou soit travail transformer en produit dérivé pour la vente. Mais aussi il faut que ces ménages aient un revenu ou un financement pour commencer à vivre de cela. Sinon on retombe dans un cercle vicieux de pauvreté et de malnutrition.

4. Les politiques doivent être rigides et très solides et surtout des politique durable et à long terme. La politique agricole doit revoir les biens ou terres disponibles et à la portés de tous. Ces politiques doivent prendre en charge le volet éducation des enfants pour un avenir meilleur. Ces politiques doivent permettre de faciliter l'accès à la terre , de faciliter le travail des agriculteurs, de donner les moyens d'accroître les récoltes, de faciliter l'accès aux marchés et aussi de protéger leur marché intérieur en sorganisant en cooperative. La politique économique doit permettre d'influencer le prix des produits sur le marché extérieur ou de subventionner ces producteurs. Aussi longtemps que ces producteurs seront influencés par le marché ils pourront pas sortir de cette extrême pauvreté. Il va falloir rendre les producteurs plus dynamique et autonome.

5. Les exemples au jour d'aujourd'hui sont celles qui ont fait juste effet à court terme. Le suivi, l'autonomisation, l'indépendance le savoir faire et la connaissance sont des points critique pour que les exemples ou cas puissent durer à long terme. Les micro prêts dans nos campagnes ont juste permis un temps soit peu et après la situation devient plus compliqué car ces prêts ne prennent pas en compte l'état ou la l'aspect social de la communauté.

Merci

## Preet Lidder, FAO, Italy

The links between agricultural research and poverty reduction are complex and interdependent, and depending on context, there may be multiple, interacting pathways through which agricultural research could contribute to reductions in poverty and associated vulnerabilities.

In April 2016, the [CGIAR’S Independent Science and Partnership Council](https://ispc.cgiar.org/) (ISPC) organized a Science Forum on: '[*Agricultural Research for Rural Prosperity: Rethinking the Pathways*](http://www.scienceforum2016.org/)'. The objective was to reassess the pathways for agricultural research to stimulate inclusive development of rural economies in an era of climate change. Nearly two hundred participants from around the globe, including 114 from Africa attended the Forum. Following the Forum, we worked through various materials to produce an ex-ante list of 18 impact pathways, linking agricultural research for development (AR4D) with poverty reduction in a results-based management format. These pathways involve innovations to increase agricultural productivity; innovations to minimize agricultural production risks; addressing market imperfections and failures; agricultural diversification; improving natural resource management, governance, property rights, and rural livelihoods; improving human nutrition and health; enhancing food supply and reducing food system waste; creating and managing food safety nets; and enhancing national food and agricultural policies and programs.

The impact pathways framework was then used to generate an idealized “wish list” table of contents for a special issue, proposing research papers that in most cases were intended to cover more than one pathway. It proved challenging to get stand-alone papers across the full gamut of 18 pathways and therefore some pathways have been covered in our [introductory paper](https://www.sciencedirect.com/science/article/pii/S0308521X17305383). Of the nine papers in the special issue, seven are already available online. The special issue (edited by Tom Tomich, Preet Lidder and Peter Carberry) is expected to be published in the journal [Agricultural Systems](https://www.journals.elsevier.com/agricultural-systems) by the middle of 2018.

This set of papers does not constitute the proceedings of the Forum. Rather, insights from the Forum were used to identify strategic gaps, constraints and opportunities in this broad field and to frame a coherent and comprehensive collection of research papers from a systems perspective. Each assesses the evidence for the key causal connections linking AR4D to poverty reduction for their focal pathway(s) and suggests priority research questions, implications for research methods and design, and for necessary AR4D partnerships.

Our concluding paper in the special issue (currently in preparation) attempts to present a consistent set of conclusions emerging from the collection of papers. For example, the indirect effects of agricultural research on poverty (e.g. reduced national food prices for consumers) dominate the direct effects (e.g. income gains from on-farm productivity growth) and thus much greater attention needs to be given to assessing indirect impacts. Consequently, prioritizing AR4D that takes into account potential indirect effects occurring over a longer period of time is critical. Our paper then makes an effort to cluster the impact pathways into operational AR4D impact networks. Stand-alone pathways are rare and there are complementarities and dependencies among pathways, with some pathways possibly being more important than others in some contexts. Building on the analysis of impact pathways (possibly reconceived as impact networks), this paper suggests partnership priorities to achieve development impact, as well as implications for international agri-food systems R4D priorities and program design.

Preet Lidder
Agricultural Research Officer
CGIAR Independent Science & Partnership Council (ISPC) Secretariat

## Mithare Prasad, Shuats, India

**Eradicating extreme poverty: what is the role of agriculture?**

Poverty is one of the major problem & drawback in under-developing countries. To over cum it, we have to adopt Agriculture as a major occupation of the rural society. Agriculture is a very wide sector which is inter-linked with various sectors like: Rural development, Food Industries, Chemical Industries, Processing Industries, Leather Industries, and Textile Industries etc. All of these together play an important role in Eradicating extreme poverty in various aspects.

**1) Farmers have to adopt GOOD AGRICULTURE PRACTICES:-** Which efficiently produce sufficient (Food security), Safe (Food safety) and nutritious food (Quality food) which also reduces the input cost and increases the crop production per unit area, which ultimately leads to higher net income of farmer. **Examples:-** Composting, Mulching, Organic Fertilizers, Application of fertilizer at optimum time, optimum dose, optimum depth, Prevent soil salinity by limiting water inputs to excess needs. Green manuring with Sunhemp & cowpea, avoid water logging, Avoid feeding animals with waste matter, Avoid use of excess chemicals and hormones to plants & animal food chain etc.

**2) Family Farming:** It is very old concept but very effective approach in agriculture. Adopting this approach a farmer is capable of self sustainable & self sufficient to feed his family for year round, by which ultimately the poverty is prevented to major extent. **Examples:-** Growing of (Cereals + Pulses + Oilseeds + Fruits + Vegetables + Fibre + Fodder)

**3) Government sector & NGO'S should promote and encourage the Rural Employment Guarantee programs in agriculture sector:-** Which should give a minimum of 100 days daily wages in a year to farming community so that they earn money for their daily needs along with farming, which will be promising in Eradicating extreme poverty.

**4) Farmers should Practice Integrated Farming System approach:** It play an vital role in minimizing the risk of crop failure due to aberrant weather conditions. Cultivation of crops along with different components like Agro-Forestry, Dairy Farming, Goat/Sheep Farming, Poultry Farming, Aquaculture, Duck Farming, Sericulture and Honey Bee Farming will be a great source of generating continuous income per unit area, which will be a prominent in Eradicating extreme poverty.

**5) Promote, Encourage the cottage & small scale industries in rural areas:-** Which is a huge income generating source in rural areas for eradicating extreme poverty. Examples of Small Scale industries in village level: Bamboo hand crafts, Sericulture (Silk Production), Small Scale Textile industries, Small Scale Fruit pulp manufacturing, dehydrated & frozen vegetables manufacturing, Pickle industry, Dry fruit processing industry, cheese making, Paneer making, ghee & butter making, Ice-cream making, Spices & condiments processing industry, manufacturing Soaps & detergents, manufacturing herbal hair oil, manufacturing handmade chocolates, cookies & biscuits, manufacturing, candles & waxes manufacturing, Pulses processing industries, Disposable plates manufacturing, wooden furniture, Arboriculture etc.

**6) Government & NGO'S should encourage & carry out rural development activates to farmers like Capacity building activates :-** Training Programs, Awareness Programs, Brain Storming Sessions, Farmers-Scientists Interactions, GroupMeetings.  **Examples:-** a) Food and Nutritional Security, b) Basic health & hygiene, c) Educating to children’s especially girl child, d) Drinking pure & safe water, e) Basic medicine & remedies for common diseases, f) Sanitation & Proper disposal of waste materials etc.

**7)** **Government sector & Agriculture Universities should encourage & promote to Integrated Technology Knowledge in agriculture sector:-** Which is a new aspect and bright full future to innovative youth farmers for adapting new practices for more crop production & getting higher net profit.

**8) Climate Resilient Agriculture Practices are adopted to reduce the impact of climate change on agriculture crop production by various measures like:** **a)** Rain water harvesting. **b)** Development of Micro catchment Area (15-20 sqm) for water harvesting. **c)** Runoff collection. **d)** Contour bunding, Graded bunding, compartmental bunding for preventing runoff. **e)** Inter-cropping & mixed cropping.    **f)** Mulching with crop residues to avoid Evapo-Transpiration losses. **g)** Spraying of Anti-Transpirants. **h)** Practicing Broad-Bed-Furrow irrigation & Furrow irrigated raised bed systems for water conservation. **i)** Planting Shelter-belts / wind break trees species around the field on bunds to prevent the high speed, hot & desiccating winds which destroy the crops to maximum extents. **j)** Prevent wind and water erosion & Plant the erosion restricting crops like Vitever grass. **k)** Practice Minimum tillage, Zero tillage & conservation tillage for moisture conservation in dry land areas.

**9)** **New approaches should be encouraged by government sectors in rural areas for farmer benefits. Example:** Seed Bank, Fodder Bank & Farm Machineries Bank or Custom hiring centre. **a) Seed Bank: -** It will supply a good quality, Disease free seeds to farmers on every season on need based with low cost, which will reduce the cost of (seed input) as well as transportation cost for purchasing seed form market. **b) Fodder bank: -** It will supply a good quality fodder at low cost to farmers whose are involved in dairy farming, goat farming etc. It will play a prominent role in milk production & very high income generation assets to farmers which will ultimately eradicating extreme poverty of a farmer.

**10)** **Organic Farming & Sustainable agriculture:-** Farmer should give more scope towards organic farming for getting higher income with by minimizing the input cost. It also have many advantages over conventional farming like ; Maintain soil fertility, Soil health, Increase organic matter content of soil, Reduce compaction, Increase soil flora & fauna, Increase soil microbial activity, Increase nutrient use efficiency, Increase water holding capacity, Increase ground water table, Prevent soil pollution, Produce Pesticides residue free food, Environmental safe, Maintain Eco-System and Diversity, Ultimately all these reduces the cost of production and increase the Net income of the farmers, which leads to Eradicating extreme poverty.

**11)** **Farmers should practice LEISA:-** (Low External Input Sustainable Agriculture) to minimize the input cost & maximize the income per unit area.

**12)** Practice Integrated Nutrient Management, Integrated Pest Management, Integrated Disease Management, and Integrated Weed Management etc. This will be reducing the input cost of plant protection measures and increase the income of farmer per unit area.

**13)** Watershed Development approach should be promoted in the rural areas, which will be more prominent beneficial impact on agriculture sector for eradicating extreme poverty of a farmer in rural areas by: **a)** Water security for Agriculture & other daily uses. **b)** Increase cropping intensity. **c)** Multiple cropping can be possible **d)** Life saving irrigation is easily possible for getting higher crop production. **e)** Employment generation to farm labor for constructions.

**14) Eradicating extreme poverty women play an important role in the agriculture:-** Women's are the backbone of the development of rural and national economies. They comprise 43% of the world’s agricultural labor force, and carry out various farm operations in agriculture sector like: Sowing, Transplanting, hand weeding, harvesing, threshing, winowing and packaging etc. Along with this It is extremely important to recognize the role that rural women play and the contribution that they make in networks and cooperatives, giving them greater political and financial support and involving them in the training and conducting of development programs that enhance women's role in agricultural production.

## Harriet Nsubuga, Agribusiness Management Associates, Uganda

Dear Moderator,

Agriculture would be the best avenue for the poorest of the poor to eradicate poverty in their households. Unfortunately, if we consider some factors of production that is: land, labour, capital and technology, they only have manual labour available. Most of them are landless, capital is not easily accessible because they lack security to offer to fellow farmers or financial institutions. Technology like improved seed, equipment, agro-inputs and even extension workers require finances.

If we are to support the poorest of the poor, they could be trained in activities that provide labour in form of casual or full-time employment in the agricultural sector; hence get income for food security and improving their livelihood.

For example:

1. They can be trained to be sprayers in vegetable production, manage oxen in ploughing and provide labour during shelling of maize or groundnuts by managing shellers on behalf of the owners.
2. They can be trained to be artisans that repair ox-ploughs, cutting blades in shellers, repair maize and rice mills, repair knapsack sprayers and any other equipment/machine used in agricultural production.
3. They could be trained to construct the maize cribs, granaries, water reservoirs and other farm structures. The suggestions are tedious work which involve the men (youth and adults), thus leaving out the women unfortunately. If someone is involved in spraying, for each knapsack he gets Ugx 3,000 (approx. $0.8) so if he sprays 1 acre that requires 12 knapsacks, he gets Ugx 36,000 (approx $10) in a day. If he gets casual work in 10 days during a month, he would be getting Ugx 360,000 ($100) in a month.

Note: Those jobs are done by the private sector, however, if we deliberately train them, then they could be a resource that can be used in the communities.

For the women, activities can include sorting and grading of fruits and vegetables, flowers and grains. The usual farm activities like weeding, harvesting and drying are possibilities. There might not be training to become well-known for the job as is the case for the men though.

Harriet

Harriet Nsubuga Mpanga

Agribusiness Development Specialist

## Jodean Remengesau, Italy

Traditionally the very poor are very reliant on the public sector for free handouts, whether its training, inputs or cash based. In turn governments prefer grant schemes and the cycle of dependency is continuous, leaving no attention span for incubation and development of the private sector. In raising families out of rural poverty like a child the marriage roles of the public and private sector in a public and private partnership (PPP) can bring about fruitful progress as the risks are divided equally and tradeoffs can turn into trade benefits. the private sector with the resources in land rights and machinery can provide employment opportunities in contract farming for the rural poor. the public sector can come in as the enforcer and regulator, with international organizations facilitating the engagement with knowledge sharing and technical expertise. as far as I understand developing countries are looking to international organizations to play as the matchmaker for such grant schemes, and although this is not our traditional way we do things, we can certainly work as the vantage point in building the bridges with key partners, the donors and food industry players, at least in dialogue to the same table and letting the group collectively agree on the path to move forward. I say food industry players because it is in this form where all people agree we can comply to fulfill our first right: the right to eat. In emerging markets where many ruralfolk are first entering an urban setting, the familiar forms of food consumption from home unites the masses and brings a spoonful of comfort. for example in Nairobi, the ethnic diversity in the city provides women homemakers income opportunities to in food catering services to office workers with particular ethnic dishes from home.

Agri-food industries offer a holistic solution to eradicating poverty, increasing food and nutrition security, income generation and even to an extent, natural-resource management. Perhaps this extent can be maximized when the marriage of conservation agriculture and agriculture management also eventually becomes one.

## Rauben Kazungu, Makerere University, Uganda

In Uganda's context, there is inadequate arable land characterized by fragmentation and over-cultivation without fallowing; this has resulted into loss of soil fertility leading to low crop yields. Low crop yield has left most of the households food insecure and malnourished. The promising way how soil fertility is being improved is by employing the use of inorganic fertilizers but this is still a problem to an ordinary poor farmers because fertilizers are expensive.

Therefore, there is a need for farmers' support through training about the preparation and use of locally made agricultural inputs; like organic fertilizers and pesticides to make such inputs cheap and easily accessible to even a poor a farmers. Access to cheap and locally made fertilizers will attract more poor farmers into agriculture and consequently more food shall be availed on the table.

Thank you

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Kind Regards.

Rauben Kazungu

## Taibat Moji Yusuf, Kwara State University, Malete, Nigeria

*1. Under what conditions can agriculture succeed in lifting people out of poverty? particularly those households with limited access to productive resources*

Agriculture can succeed in lifting people out of poverty through contract farming,

1. Contract farming: There are many constraints facing small farmers in developing countries including Nigeria that limit their potential to increase productivity and income. First, they lack information about production methods and market opportunities, particularly for crops that they do not normally grow. Second, even with sufficient information about profitable investments, small farmers often lack the necessary financial reserves.  Access to credit is limited by the lack of collateral and/or by the high interest rates demanded. Third, small farmers operating near subsistence are more risk averse than large farmers. They generally prefer to assure themselves a minimum supply of food before expanding commercial production for an uncertain market. (Bijman,2008).

One institutional form which deals with many of these constraints in an integrated manner is the  contract farming (Minot, 1986). It constitutes a potential way of overcoming market imperfections, minimizing transaction costs and gaining market access by smallholder farmers.

Contract farming as defined by Will (2013) is a forward agreements specifying the obligations of farmers and buyers as partners in business, specifying farmers’ (sellers’) legal obligation to supply the volumes and qualities as specified, and the buyers’ (processors’/ traders’) obligation to off-take the goods and release the payments as agreed and buyers providing embedded services such as: upfront delivery of inputs (e.g. seeds, fertilizers, plant protection products)); pre-financing of input delivery on credit and other non-financial services (e.g. extension, training, transport and logistics)

In many developing economies, contract farming has been recognized by both policy makers and analysts as a new development model or paradigm for linking small-holders to markets. (ActionAid, 2015). It has become an attractive policy instrument to assist small farmers to gain access to markets, information, credits, and necessary services to manage their risk.(Minot, 1986). Nigeria is one of the developing countries where contract farming practices has been gaining importance, as agriculture remains critical economic sector in terms of its contribution to the economy and employment opportunities. The agricultural sector in Nigeria is dominated by smallholder farmers who operate at the subsistence level with minimal level of commercialization while producers with larger landholdings may have access to capital, marketing information and institutional support.

In this view, contract farming can help farmers move from subsistence production of low-value staple foods to commercial production of higher-value crops, allowing them access to the wider economy and raising their income (Eaton and Shepherd 2001).

*2. What is the role of ensuring more sustainable natural resources management in supporting the eradication of poverty?*

Poverty is more dominant in rural area where a larger proportion of population depends on natural resource such as land, water, forest and livestock for their livelihood. Unproductive use of resources has led to resource degradation which appeared to be major cause of poverty. Sustainable natural resource mgt leads to growth of food and also enhanced income of poor. Income is one of the most important routes to exit from poverty

*3. Can those without the opportunities to pursue agricultural production and to access resources such as fish, livestock, forest, find pathways out of extreme poverty through these sectors?*

The answer is yes. They can find pathways out of extreme poverty through participation in agricultural value chain. An agricultural value chain is a way of describing the different ‘links’ required to take a product from the farm to the end consumer

A basic agricultural value chain involves a Production – Distribution – consumption schema

Production is concerned with producing agricultural produce which may be  crop, fish, livestock or forest by farmers with adequate access to productive resources.

Distribution is concerned with many activities including: gathering, transporting, sorting, processing, packaging, preserving wholesaling and retailing among others before the product finally gets to the user.

Those without access to productive resources can become  actors in any of the distribution schema and make substantial income

*4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication*

Education reform which aims at enhancing skill acquisition of rural dwellers will lead to adoption of improved technology and enhance all farm employment

1. Monitoring of special poverty eradication intervention  programmes to ensure full implementation
2. Protection of natural resource management though integration of activities of ministries such as agriculture, health, environment and education.
3. Promotion of cash crops in the primary sector
4. Adoption of integrated farming system (agro forestry with animal rearing))
5. Can you share any examples of experience that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathways

Out- grower – Scheme organized by AMO a poultry industry in Nigeria. The scheme is centered on broiler production and has many registered farmers. AMO supplies  day old chicks , feeds and other supports such as equipment,  drugs and vaccines and extension education to interested members who will rear the birds for six or seven months and then return them to the company. The birds will then be weighed in kg and the farmer will be paid according to the agreement made. The group has made millionaires out of many poor farming households  in Nigeria including; the transporters, the distributors of the chicks, people working in the feeds, drugs and vaccines  sections of the industry among others.

## Alum Daisy, Makerere University Kampala, Uganda

Dear moderator

The case of school feeding in Uganda, Small holder farmers have highly benefited in the HGSF programme, households produce for their own consumption and are able to sell their surplus to the market or schools, this generates income and farmers are partly able to meet their nutritional needs. However, the farmers are likely to misuse the income to purchase non- food items and less nutritious foods and this has led to increasing levels of under-nutrition in the rural areas. I think this calls for need for nutrition education alongside the HGSF programs so that farmers are able to understand that despite the need for increased income they need to actually sustain good nutrition for increased productivity.

To link agriculture to poverty eradication in Uganda through HGSF the governent needs to establish streamlined procurement procedures either through decentralized or centralized management so that small holder farmers achieve high economic benefit and sustainable development.

THANKS

ALUM DAISY

DEPARTMENT OF FOOD TECHNOLOGY AND NUTRITION

MAKERERE UNIVERSITY KAMPALA, UGANDA

## Kamaludin Abdullahi, Makarere University, Uganda

According to the Agronomic systems in Somalia, Farmers success depends on understanding with the crop that is appropriate to the field they possessed instead preferring cash crops also proper handling of irrigation system and crop variation. Also equipping with knowledge and providing fertile seeds could result fruitful gardening.

Targeting poverty eradication, I think empowering local agricultural system is the key step to improve by providing amenities that is necessary to enhance their agricultural production, such helping to the fertilizers, international investment and overcoming security issues for our case. Funding small scale farmers to produce goods that may be to cover the needs for certain local geographic zone will be part to promote large scaled and well planted farming system.

When setting policies, I have belief inspiring local food production supplies are very crucial to obtain sustainable vast production and well decent agriculture system and poverty eradication strategy. E.g. transporting food aids from somewhere else that is not may be our food preferences and is not fitting to consume our people instead of that if donors preferred to provide food aids from local grown foods will enhance both responding nutritional status of beneficiaries and local production.

Sincerely

Kamaludin Abdullahi

Msc Applied Human Nutrition

DEPARTMENT OF FOOD TECHNOLOGY AND NUTRITION

MAKERERE UNIVERSITY KAMPALA, UGANDA

## Malika Bounfour, Morocco

This was certainly a very rich discussion as I believe it is heart for rural poverty reduction:

Reflecting on agricultural practices that are nutrion cautious, I would like to give the example of olive harvest. Traditional way of harvesting causes injury to olives, which in turn causes a loss in nutrional quality of olive oil produced from these fruits. For more information, please see page 70 in the following document in the link:

<https://pdfs.semanticscholar.org/d1eb/c627f64b3ece2b98f22f8882df1e96d00a5b.pdf>

## Olumide Odeyemi, Nigeria

To start with, poverty is defined as lack or scarcity of money or certain basic possessions. That being said, to eradicate poverty mostly entails people being able to afford basic neccesities of life. How will they afford these necessities when they do not have the money to buy such? Hence, agriculture serve as one of the key instrument in eradicating poverty. This is because it can be practised by anyone on land, water (aquaponics/aquaculture) or air (aeroponics) while the produce or output of such can be used to meet other needs of the individual. For this to be effective, there is need to educate people on how to engage in basic farming that can help put food on their tables and generate income that be used to meet other needs. Technological and scientific advancement have made it possible to have small scale farming that can be operated by individuals, families or group of people in a community. Taking aquaponics for example, this technology can be used to generate vegetables and fish that will feed an individual or an entire family. However, many are not aware of this technology or it usage. Therefore, it is important to educate, train and provide enabling environment for opportunities such as aquaponics before it can help eradicate poverty.

Thanks

Olumide Odeyemi

Higis International Foundation

Nigeria

## Laura L. Dawson, Dipl.Ac., L.Ac., Food Physics & Body Dynamics LLC, United States of America

1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.

A person or family living within extreme poverty, even here in the USA with the addition of a home garden can provide the necessary vegetables and fruits to sustain their health. In the case of a collaborative community garden, some of the labor may be shared. This is especially helpful for the aged, frail and disabled population who have limited physical capabilities, within the region or community. There is also a food bank method of redistributing food items, although here in the USA where I live, it is usually foods which have been processed, making it easier to store for longer periods of time before using the items. This means the food has been canned, frozen, dried and air-tight sealed. In many cases there is a loss of nutrient value, although in some cases such as dried herbs, the nutrient value may be increased.

2. What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?

Firstly, the soil needs to be nourished not stripped and devoid of all the biotic life contained in this portion of the ecosystem. In the last two decade, research has revealed that we are more biotic cells than human cells at a 9:1 ratio. This means when herbicides such as glyphosate are used to reduce weed populations, this glyphosate can and does enter our body systems and alter the patterns of growth. [See <https://www.sciencedaily.com/releases/2018/03/180322181335.htm>]

Clean safe drinking water is the second matter at hand to support the eradication of extreme poverty. Poverty can be associated with lack of productive activity. This may be related to lack of clean and safe drinking water, to cleanse the body systems after heavy or even light exercise takes place, albeit digging a hole, harvesting a crop, or carrying safe water to plants. When plants are healthier, they tend to attract fewer pests and diseases. When farmers are drinking fresh safe water they tend to get more work done, think more clearly and enjoy life more.

3. Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?

You may be referring to people who are disabled, mental or physically incapable of managing agricultural production. Yet there are plenty of jobs and work to be done around the entire food chain. Jobs like nutrition education, training in food harvesting, cleaning and storage. Or teaching methods to cook and serve healthy meals for all ages. The challenge may be to encourage a living wage for these peripheral jobs, as well as the ones doing the actual farming, crop management, etc. These are economic changes we struggle with here in the US as well. There are farms and farmer who cannot afford to eat their own crops, as the work to feed the supply chain, not their families first. We have a ways to go in our economics to generate living wages for all people who work, regardless of whether actually observed and paid for

4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?

Our current administration in the White House is struggling with recognizing the rural populations and their unmet needs. For instance, rural health care is often left behind due to the cost of transportation to and from a hospital or clinic, leaving this population to self-medicate. This is one of the areas hit hardest by opioid addiction, as there are few ways to deal with the physical pain of performing strenuous labor, often for long hours under a hot sun or in a snow storm. Yet we all benefit from the work of these farmers and their families. We need to be certain that those are serving us and served as well.

5. Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?

Several years ago, a women who was a professor at our local university in the area of social justice, saw a way to reduce crime and improve the quality of life in our county. Dr. Hossfeld conceive and created a Community Farm Association comprised of farms on the peripheral or our city limits. She began to organize the farms to advertise their crops online, take orders and then the farmers would deliver the packages of produce to the drop-off site, where the city shoppers would come and pick them up. This worked well and then the restaurants began to source their menu items from the farms. While the good Dr. has left us, the program is shifting in ways yet uncharted. We will see what the next generation will do.

A final note I would like to address today. More and more research is coming forward to demonstrate the impact of using glyphsoate herbicides in our farming and lawn cultivation to elimenate weeds.  Just this past month a study from Indiana Univerity and published by Science Daily, came forward with results of the effects of glyphsoate [Roundup] in pregnant women. It was found that the presence of glyphosate in the urine shorten the pregnancy of 90% of the study population. Here is that link for your edification:

<https://www.sciencedaily.com/releases/2018/03/180322181335.htm>

Also, we have a microbiolgist who has crafted a spore biotic which will survive both areobic and anerobic environments allowing it to reach the duodenum and small intestine where it will be able to preform it regenerative properties on the human biome. See Wikipedia for more information and/or contact me with any questions.

<https://en.wikipedia.org/wiki/Human_Microbiome_Project>

Thank you.

May you and yours..Be In Good Health,

Laura L. Dawson, MAOM, Dipl.Ac., L.Ac.

## Jane Sherman, Italy

Delighted to read the post by Daisy Alum which takes a realistic look at what happens to extra farming income generated by home-grown school feeding. I would very much like to know if Ms Alum has any data on this, but the forum is closing today. Is there some way we can hear more?

Jane Sherman, nutrition education consultant, ex-FAO.

## Thatchinamoorthy C, Annamalai University, India

**“**India lives in its Villages” Rural was backbone of our country. Agriculture, with its allied sectors, is unquestionably the largest livelihood provider in India, more so in the vast rural areas. It also contributes a significant figure to the Gross Domestic Product (GDP). Sustainable agriculture, in terms of food security, rural employment, and environmentally sustainable technologies such as soil conservation, sustainable natural resource management and biodiversity protection, are essential for holistic rural development. Tamil Nadu has historically been an agricultural state, while its advances in other fields launched the state into competition with other areas. The State’s total population grew from 62.41 million in 2001 to 72.15 million in 2011, the decadal growth being 11.6 percent. Nearly 70 per cent of the country population likes in rural areas report from latest census. Unemployment and poverty are inextricably linked in that one can’t be decoupled from the other. Unemployment is the major cause of poverty. Unemployment leads to loss of income, self reliance, skill and self-confidence, psychological and physical health, worker motivation and increases in ailment, morbidity and mortality.

 Agriculture is very important for Indian economy and society both. It is the means of livelihood for half of the population. According to the Socio-Economic and Caste Census, SECC in 2011, out of 24.39 crore households in the country, 17.9 million households live in villages and are mostly dependent on agriculture. Agriculture is the principal source of livelihood for about 48 per cent of the population of the country. It caters to the food security of the nation besides generating exportable surpluses. As per 2011 Agricultural Census, number of agricultural workers in the country were 26.3 crore comprising 11.87 crore of cultivators and 14.43 crore of agricultural labourers.

 Our agricultural farming system move to sustainability, It is refers to appropriate use of natural resources, protection of bio-diversity and environmentally compliant technologies with a view to ensuring the food and nutrition security of the growing population. And, inclusiveness implies the need to provide equal opportunities for all categories of agricultural households including the agricultural landless labour and the small and marginal farmers to grow and earn net family incomes at levels much higher than they do now. India’s agriculture sector has been undergoing a structural change with respect to its farm size, cropping pattern and share in the national Gross Value Added (GVA).

 The global population is projected to be nine billion by 2050 which need to be almost doubled to meet the global food and nutritional security demand. Agrarian distress manifests itself as low income of farmers (evidenced by high percentage living below poverty line) farmer’s suicide which is not only unfortunate, but is also an avoidable event only if appropriate and timely interventions are made. It is in the above context, that Government of India in its budget 2016-17 declared its commitment to doubling income of the farmers over the period of 6 years (2016-17 to 2021-2022).

 Prime Minister Shri Narendra Modi has set the goal of “Doubling the Farmers income” by 2022. This is the second time after independence when there is going to be a big transformation in the system in respect to agriculture and farmers. The country struggling with food shortage in the sixties was made self-reliant through the Green Revolution and now the Prime Minister is striving to double the income of the debt ridden farmers and raise their living standards. The Prime Minister’s goal of doubling the income of farmers by 2022 is commendable and full of challenges but not impossible. To bringing focus on ensuring small and marginal farmer income by the technology transfer through agricultural extension, it tries to creating a conducive awareness that supports doubling farmer income and poverty eradication.

 Agricultural extension is more than only information dissemination; it extends beyond collection and sharing of research outcomes or farmers local knowledge with producers. It is an advisory service that entails human interaction. It is about knowledge brokering, which involves mediation between a wide ranges of actors within the agricultural innovation system. Despite all these tested and workable models and approaches. The sector is still in crisis. With the emergence of new ICTs, development partners should not make the mistake of thinking that ICTs could act as the new model of extension, nor be used to by-pass the extension officer and placed directly in farmers’ hands just because the extension has become dysfunctional.

 Extension service delivery must shift from its current comfortable top-down approach to a knowledge sharing and facilitated learning approach. In this case, extension workers regard their clients as partners in developing new skills, generating innovations and learning about sustainability, rather than assuming the farmers to be mere recipients of externally generated scientific knowledge which may or may not be suited to their livelihoods and farming contexts. In all their extension engagements -be they production, food security or livelihood related- extension agents must be grounded thoroughly in both technical and ‘soft’ (e.g. participatory, learning, and communication) skills to promote environmentally sustainable livelihoods among farmers. Extension support should also encourage rural communities to institutionalize local governing bodies, mechanisms and rules to protect the invaluable natural resources upon which much of their sustenance depends. A single comprehensive policy must be established addressing food security, biodiversity conservation and extension, whereby both food security and conservation objectives are enshrined within extension service delivery.

 Agricultural extension focusing on enhancing sustainable agricultural practices through the named instruments, biodiversity conservation, increased agricultural production, increased income, and improved social capital and human capital can be achieved. Thus, it is vital that agricultural extension remains an integral tool of any government to address biodiversity conservation at the rural environment level. Whatever approach or combination of approaches used – technology transfer, advisory, facilitation, or learning – agricultural extension programmes should be re-examined and adjusted so that they are made to contribute to poverty eradication.

## Yubo Xu, The Permanent Representation of the People's Rupublic of China to the United Nations Agencies for Food and Agriculture, Italy

For Chinese people, we have the largest population in the world with vigorous demand for agricultural products. In China, as in other developing countries, most of the poor people live in rural areas. Therefore, I would like to join this discussion with the main focus on rural revitalization.

What can agriculture do to eradicate extreme poverty? In my opinion, rural revitalization means business revitalization, which is the key to stimulate rural vigor. Nowadays, China is experiencing a transformation from production-oriented to quality-oriented in a green, high quality, distinctive and high geographic identification way. We implement the national strategic plan for improving agricultural quality, paying great attention to agricultural efficiency and based on the guarantee of domestic food security.

Secondly, rural revitalization requires not only the flourishing of agriculture, but also other sectors. It is necessary to promote a deep integration of the primary, secondary and tertiary industry, to extend the agricultural value chain while building up a full-scale agricultural industry chain.

Thirdly, we need to realize that agriculture is multifunction. Take some of FAO’s work as examples, the Globally Important Agricultural Heritage Systems (GIAHS) and the conservation of biodiversity, it develops related products and demonstrates traditional agricultural practices, promoting farm tourism and rural tourism.

Fourthly, set up international agriculture cooperation projects at village level to promote rural investment, market and technical capacity, and lay a solid foundation for developing agricultural productivity.

That’s all I’d like to share, thank you!

## Kuruppacharil V.Peter Peter, Kerala Agricultural University, India

"Hunger and poverty are shame to humanity" says Gandhiji. "Everything can wait but not agriculture" so addresses the First Prime Minister of India Shri Jawahar Lal Nehru to the members of the First Planning Commission of India-Dr P C Mahalanobis and Prof.C R Rao. "Jai Jawan Jai Kissan" is the slogan given by the Farmer Prime Minister Shri.Lal Bahadur Sasthri. "Green Revolution promoted by Smt Indira Gandhi transformed India from a stage of "ship to mouth in 1947-62 to Farm to Ship 1965 onwards. Despite mountains of grains (278 million tons) and horticultural produces (307 million tons), India hosts the largest number of hungry and poor in the world. Hidden hunger due to deficiency of micro-nutrients and vitamins in the common diet is rampant. Availability of drinking water, lack of protein supplements and above all complete missing of nutrition education are matters of concern. The Forth coming book ZERO HUNGER INDIA:POLICIES AND PERSPECTIVES published by Brillion Publishing New Delhi carries 28 chapters addressing holistically the state of food and nutrition in India. An introduction to the book is attached (<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Introduction.docx>)

## Georgina Bingham Zivanovic, Vestergaard, Switzerland

Based on the question raised in this forum, we at Vestergaard wanted to share a practical example of how we see agriculture being able to lift the most vulnerable out of poverty in rural areas. We are currently focused on supporting the poorest families, with a very small amount of land, living below the poverty level or 1.90 USD/ Day (693.50 USD). We wanted to share with this forum, for input, a possible platform for an anti-poverty starter kit and a new strategy for local warehousing that we are developing together with local partners in Kenya.

In Kakamega Western Kenya, at Vestergaard, we are challenging ourselves to show that using the Farmer’s Starter Kit we can lift 10,000 rural families out of extreme poverty. The kit dynamics are based on over 90% of families’ prefer to grow and consume their own food, and the average storage time is 2 months, with over 70% storing at home. Storage is typically in woven new or used bag (costing USD 0.80 – USD 0.40). As many as 50% are “in the market and net sellers” and know quality gives better prices. Financing institutions require smallholders to sell upon harvest to minimize credit risk, this is exacerbates the poverty cycle. There are now initiatives from various banks allowing farmers an additional 3 months storage subject to proper safe storage (due to revenue upsides of >100% by storing for few months extra).

Working closely with Kenya Seed Corporation we are focusing on providing an anti-extreme poverty starter kit for farmers. This kit will initially focus on providing all the tools needed for maximizing production of maize of high quality and then also the opportunity of storing the maize produced safely. This not only allows the farmer to grow more but also keep the grain longer, selling the surplus at a price higher than the one available during the harvest period.

The families will then be provided a connection to a warehouse storage program being set up in the region, a simple decentralized profit sharing warehousing system designed on the “Uber” model, to provide a place for farmers to confidently sell the maize close to home. The system, like Uber, is managed through a block chain phone application, it enables quality classification, spot price agreement, weight documentation and a sales agreement. The ZeroFly® Storage Manager stores and sells at the optimal pricing, and shares profits with family via the app (based on the m-pesa/ cryptocurrency system).

Then Uber Warehouse owner is then connected with the key markets through East African Grain Council & the National Cereals Board to bring this maize to market for the most optimal prices.

Case study: The Otienos are a family of five, father working as a farm laborer outside of the home, mother working part time and taking care of two young children and managing the family’s 1/3 acre plot of land with the help of her mother – the family lives close to the poverty line and has an income of approximately 540 USD per year – approx. earning 1.50 USD/ per day. Mrs Otieno cannot afford high quality seeds or fertiliser, they grow maize twice per year, but yields are low and she never manages to grow enough for the family to eat for the year, and the maize that is grown needs to be sold or consumed within 2 months or it will be completely spoiled by insects and rodents. The 100kg of maize that that her husband carries 20 km to the nearest market sells at the lowest market price as it is at the harvest period.

Vestergaard proposes to provide a family such as the Otienos an Anti-Poverty Starter Kit for Farmers – the kit contains enough high quality maize seeds from Kenya Seed Co., top dressing & fertiliser, and ZeroFly® Combi Bags (allowing safe storage of grains within patented hermetic coated storage bags protected by insecticide and rodent repellent) for two seasons – 12 months. This kit not only provides additional income and high quality nutrition, but also – since the Uber Warehousing scheme will be much closer to the homestead, <7km, Mrs Otieno will be able to carry the grain to the warehouse, providing an opportunity for gender empowerment. Additionally, after sometime the family will have more disposable income to grow their farm and provide opportunities for the younger members of the family, and members of other neighboring families to stay in these rural areas, instead of having to leave to find work.

A cheap starter pack can generate on average 400 kg of maize per season, and the investment needed for this pack is under 20 USD per family and will bring them out of extreme poverty within two harvest seasons (12 months), and break the cycle of poor farmers always having to sell first or at least provide an opportunity to store for better profits.

Calculation (estimated):

\*Two seasons of seed for 400 kg maize, fertiliser and 4\* ZeroFly® Combi Bags; With KES 1,700 approx. 17 USD / household, a family’s food security and financial needs will be met for the year.

\*One acre of land requires 12 kg of seeds and produces on average 20 bags of 100 kg, equivalent to 2000 kg. Most of the target farmers have less than 1 acre of land for planting. Therefore, 800 kg have been used as the average and 5 kg seeds are needed for producing this much maize.

\*Poor soils require both planting and top dressing fertilizer; 50 kg fertilizer of both basal and top dressing approx. 25 kg fertilizer is able to work for the 5 kg of seeds

\*A minimum of 4 bags will be provided for each of the farmers; x4 ZeroFly® Combi bags are able to ensure the farmers can store the equivalent of enough grains to earn an additional income of 125-150 USD x2/ year ; After 12 months generating 250-300 USD lifting the family out of extreme poverty.

\*Outreach and distribution of kits; the infrastructure and resources are already available to distribute kits in the Kakamega region through Vestergaard’s LifeStraw team and can provide the necessary initial training.

Many thanks for comments and thoughts.

Georgina V Bingham PhD FRES

## Mylene Rodríguez Leyton, Universidad Metropolitana de Barranquilla, Colombia

Good afternoon,

I send greetings to the organizers and participants in this forum; I would like to share some thoughts from the academy, particularly from the area of public nutrition of the Nutrition and Dietetics Program and the Food and Human Behavior Group, at the Metropolitan University of Barranquilla, Colombia.

**1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.**

The obligatory conditions for agriculture to succeed in the eradication of extreme poverty and the availability of land as the main asset for agricultural production, which have the necessary resources, access to credit, technical assistance that enables them to produce quality sustainable volume to meet the demands of the markets, that there is a marketing system that guarantees the fair conditions of commercialization to ensure income.

A significant proportion of the population of many countries of the world lives in rural areas, so it is necessary that rural workers have opportunities for education, health services, housing, living conditions and security that motivate the inhabitants of the country. rural sector to remain in their places of origin cultivating food for self-consumption and to market, which is free of all forms of violence or situation that leads to displacement to urban areas, which worsens poverty by increasing or generating Misery belts.

It must have capacity for food, mainly the young population, to produce a planned way, which transcends the activity of producing food, must be articulated in a sustainable food system and oriented to food and nutritional security contributing to the results in food of the population, in this way, the flow of food through productive chains that allow the flow of products, boosting not only markets and industry but also the nutrition of people not only through self-consumption of products for consumption food.

The strengthening of people in extreme poverty for agricultural activity is strengthened in a source of employment, the promotion of entrepreneurship projects that help generate income and in this way contribute to mobilize human, social and economic development.

**2.What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?**

The sustainable management of natural resources contributes to the eradication of extreme poverty since it guarantees the permanence of the necessary resources for production and marketing and for self-consumption.

The care of natural resources allows to develop productive processes of clean agriculture and agroecological systems.

**3. Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?**

If the different types of activities different from the cultivation of the land but that have to do with the obtaining of products for human consumption and that are viable to form productive chains that generate increase of the income, decrease of the prices of the foods and the activity becomes a source of employment.

**4. What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?**

The policies necessary to address food security and eradicate poverty must be multisectoral policies related to the development of peasant capacities, social welfare policies that guarantee their living conditions and promote social development and commercialization.

This includes the promotion of the permanence of the rural population in their areas of development; likewise, promotion of family agriculture linked to local development contributing to food sovereignty.

**5. Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?**

Below I will illustrate this topic with some experiences that show how agricultural production has great potential for improving the quality of life of the rural population; however, paradoxically it is not always a reality, it is the rural population that presents the highest rates of poverty, unemployment, the living conditions are precarious and where there are higher rates of malnutrition.

The Colombian agricultural sector presents a series of situations and experiences that become lessons learned for the definition of policies oriented to the poorest population.

Colombia is a country with favorable factors for agricultural production such as the climatic variety due to the geographical location in the tropical zone, the productive potential of the soils; as an example we can mention the cultivation and commercialization of some products such as coffee have been the engines of the economy for many years and Colombia has been a leader in the world market generating significant income in the gross domestic product.

The reactivation of the agricultural sector with the peace process consolidated in the present government, the agricultural sector has once again become stronger and this is how the Colombian government through the Ministry of Agriculture and Rural Development has promoted the agricultural policy **Colombia Siembra**,  it represents a commitment to a new rebirth of the Colombian countryside, aimed at strengthening the development of the agricultural sector for the validity of this government. It is proposed to increase the supply of agricultural products for the country and will promote agricultural exports with added value, through the increase of the sown area and productivity.

This initiative will benefit all agricultural stakeholders (Family Farming, Farmers and Agribusinesses), providing them with adequate financial instruments to meet the needs of their productive activities. Colombia Siembra will create a favorable environment to boost the investments required in the new areas, technological packages, water solutions, infrastructure, machinery, research and technology transfer.

The Colombia Program sows that has the following objectives:

* Increase the agricultural supply to guarantee food security in the country.
* Increase the area and yields destined to the production and promotion of agricultural and agroindustrial exports.
* Promote the development of agricultural businesses to improve the income of producers.
* Strengthen technological development and services in the agricultural sector.

Coffee Production in Colombia, this is another case that leaves lessons learned regarding the eradication of poverty. Coffee producers have formed associations and have established policies to develop the sector and establish measures when the world price of grain decreases generating economic crisis. In 1927 the Colombian coffee growers united in order to create an organization that would represent them nationally and internationally, and that would watch over their welfare and the improvement of their quality of life. Thus was born the National Federation of Coffee Growers of Colombia (FNC), considered one of the largest rural NGOs in the world, becoming the main guild of Colombia, with presence in all rural areas where coffee is produced in the country. Its central axis is the coffee producer and his family, so that his business is sustainable, that the coffee communities strengthen their social fabric and that Colombian coffee continues to be considered the best in the world.

The objective of the National Federation of Coffee Growers of Colombia is to increase the quality of life of Colombian coffee producers by contributing to the reduction of poverty; however there are other actors in this productive process that are the grain collectors and the scope the Federation is limited for this population; given that coffee cultivation takes place in some seasons of the year, harvesting is a manual process, occupies a high number of workers, but the employment generated is seasonal, who perform this work are rural inhabitants of low educational level, that do not have direct employment contracts by the owners of the crops, therefore they are not always fairly remunerated; it is the owner of the crop who decides the payment for each kilo of coffee collected; their lifestyle is nomadic, since when the coffee harvest is over, they migrate in search of other income opportunities; These conditions are what perpetuate the cycle of poverty in this population.

Below I share some links with publications of interest on the role of agriculture in the fight against poverty and attached a research article that illustrates the case of coffee pickers in Colombia (<http://www.fao.org/fsnforum/sites/default/files/discussions/contributions/Representaciones%20sociales%20de%20los%20caficultores.pdf>)

**Four ways to fight poverty with agriculture, experience in southern Brazil.**

<http://www.bancomundial.org/en/news/feature/2016/11/11/cuatro-maneras-de-combatir-pobreza-con-laricultura>

**Renew agriculture to fight poverty.**

<https://www.dinero.com/economia/articulo/agricultura-contra-pobreza/213331>

**This is the key to eradicating hunger in Latin America**

<http://www.portafolio.co/internacional/clave-erradicar-hambre-america-latina-33010>

## Gisèle Yasmeen, University of British Columbia and Royal Roads University, Canada

Greetings from beautiful Vancouver, Canada. Apologies for jumping in late.

In the interest of brevity, I would like to point out that some of the questions being posed are discussed in our recent report on micro, small and medium enterprises with respect to agri-food in the Philippines, Vietnam and Peru commissioned by the Asia Pacific Foundation of Canada on behalf of the Global Affairs Canada funded APEC-Growing Business Partnership. While extreme poverty is not the exact focus, strengthening sustainable agri-food systems can and does play an important role in lifting the poorest of poor out of poverty, particularly in rural areas. However, this should be supplemented by redistribution of resources - through various programs including but not limited to cash-transfers - and investments in female literacy and nutrition.

The study was published on March 23rd, 2018 and can be freely downloaded at:

<https://apfcanada-msme.ca/research/micro-small-and-medium-enterprises-agri-food-study-philippines-vietnam-and-peru>

Please feel free to contact me at any time if you have questions or comments.

Gisèle Yasmeen

Gisèle Yasmeen, Ph.D.

Senior Fellow, Institute of Asian Research, University of British Columbia

Adjunct Professor, School of Environment and Sustainability

Royal Roads University

Sorry for being late to see the post, particularly when the deadline is already over!

Just quick and small submission.

The subject matter is precisely over interrelation of extreme poverty and the possibility of playing a role by agriculture, however, as Ms Egal placed the question, the term 'agriculture' needs to be clarified mainly because crop-based agriculture is directly linked with land whereas. land fragmentation and landlessness are increasing at an alarming rate, particularly in South Asia.

As Colin Clerk estimated of 300 work days or I. Singh estimated about 3 hectares of land required to absorb labour of an average family, rarely or minimum they exist in South Asian agriculture. I suppose that poses the difficult question whether agriculture has any role to play for eradicating (extreme) poverty of this majority population.

## Rejaul Karim, South Asian Association for Regional Cooperation (SAARC), Nepal

And the second submission is related to the first. As both the estimation linked to necessarily the adequate job opportunity in agriculture. Except little in fisheries and livestock, crop agriculture cannot ensure 300 working days for a labour if not we are talking about value chain development in agriculture for the sluggish season with PPP model.

In terms of extreme poverty, I sense that it not only depends on the availability of jobs but also the rate of the average payment an agricultural labour gets and that as well depend on the supply of labour. Whatever the case is, labour has to be provided with multiple option and capacity to choose for the better to earn more which would lead naturally alleviation of the poverty caused by lesser or no-income

Last but not least, talking about agriculture, historically big farmers avail better options and opportunity having least risk. However, smallholders are at risk always and they are the most vulnerable group. Appropriate mechanisation for the fragmented landholdings and market linkage with adequate input with logical price may help enhancing the gap between input and output in agriculture that again may help making the agriculture profitable for the smallholders, without which only subsistence agriculture cannot free them from poverty.

By the way, contract farming or industrial farming may transform the smallholders into virtual landless who require an employment elsewhere and nobody knows that leasing the small piece of land would create enough income for the family of the smallholder! And that invites another submission that agriculture alone is not sufficient to eradicate the rural poverty!

Thank you all for the valuable discussion. Enjoyed a lot!

## Lily Dora Núñez de la Torre Caller, Asociacion de Mujeres Indigenas Tawantinsuyo, Peru

AGRICULTURA Y POBREZA EXTREMA EN PERÚ

Perú es un país con tradición agrícola ancestral exitosa, tanto por el uso de los suelos, el aprovechamiento de las tierras mediante la construcción de andenes y camellones, la rotación de cultivos, los sistemas de riego, la conservación de los productos utilizando técnicas como: el salado, ahumado, deshidratado; han permitido que las poblaciones rurales aún subsistan aplicando éstos saberes en medio de un crecimiento demográfico que exige mayor producción para el consumo.

Adicionalmente, con el crecimiento de la agroexportación de vegetales, frutas y granos, se ha impulsado la tecnificación de la actividad, especialmente en la zona de la costa.

Sin embargo existen graves problemas en relación a la “ ganancia” puesto que en general quien recibe el mayor beneficio no es el mismo productor, sino el intermediario que adquiere la producción en parcela y la población rural se mantiene en pobreza extrema. La agroexportación también es un grave problema para el consumidor interno que debe pagar elevados costos y conformarse con productos de baja calidad.

Un ejemplo reciente del manejo inadecuado de políticas de comercialización de productos se dio en el mes de enero de 2018, debido a la superproducción de papa blanca, variedad que es altamente utilizada en restaurantes especialmente como papas fritas, porque el gobierno permitió la IMPORTACIÓN de papas precocidas de uso inmediato procedentes de Holanda y otros países, con lo que se perjudicó a los productores que tuvieron que llegar a una huelga, bloqueando carreteras hasta que sus demandas fueran atendidas y se les comprara el producto a un precio justo.

En Perú no existe una planta de procesamiento, siendo la papa un producto originario, lo cual ha demostrado que las políticas que se aplican entre producción y comercialización no estaban articuladas ni existió planificación que beneficiara al productor campesino.

Un caso similar se da con la producción de banano en la zona amazónica, precios ínfimos en chacra y elevadas ganancias en la cadena productiva para los comerciantes.

Éstos casos demuestran que las políticas deben ser realistas y estar debidamente articuladas para favorecer al productor, organizar a las cooperativas productoras, dar el valor agregado en la misma zona, cubrir el mercado interno, lograr la inserción en el mercado exportador y paralelamente tecnificar la producción, capacitando a los campesinos para asumir responsabilidad de gestión.

Mg. LILY D. NÚÑEZ DE LA TORRE CALLER

CNP 2136

LIMA – PERÚ

## Agape Ishabakaki, United Republic of Tanzania

This is a great discussion indeed. It shows how nations and their people want to end hunger before massive population explosion in years to come.

They are great questions raised but would like to tackle on the first one;

qn1. Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.

To my views is that since most of the citizens are involved in Agriculture mostly in parts of Africa forexample in Tanzania where i live, statistics shows that, 68% of the Tanzania depend on agriculture as the source of income, then followed by Uganda with 65% and Kenya with 41%. Through this quick statistics it implies that if there is huge investment in agriculture in african countries it will lead to zero hunger in the world since most of the citizens are involved in Agriculture and reduce poverty at high rate.

So through my research i found out that many don't succeed in Agriculture due to Poverty which is caused by other factors like Natural calamities/ Climate change because when these calamities strikes they remain poor. According to some findings from FAO is that, betwee 2003 to 2013 there have been 78 disasters of which affected 1.9 billion people in LDCs and caused more than $ 494 billions in damage. They further analysed 78 post-disaster needs assement in 48 LDCs and found out that 22% of the damages were absorbed by agriculture sector including crops, livestock, forestry and fisheries.

Therefore the best solution to fight this tragedy is through "Introduction of Effective Crop Insurance to farmers" because when introduced it will lead to many benefits like;

1. Stability in income,

2. Awareness of the disasters and agricultural expertism from agriculturalist,

3. Minimal debts

4. Technology advancement due to colaboration with insurers who will be of great help to bring them good technology

5. High quality yield production

6. Peace of mind even when disasters strikes.

Those are my few contributions so far.

Thanks and have a great amazing Discussion for success.

Agape Ishabakaki| Intern

## Ana Paula de la O Campos and Maya Tagaki, facilitators of the discussion

Dear members of the Forum,

We would like to thank you all, on behalf of FAO’s Strategic Programme on Rural Poverty Reduction, for your valuable contributions for this on line discussion. It was really rich of different elements and contexts, encompassing all the regions in the world and ranging from broad conceptual contributions to specific concrete approaches and solutions on the ground, at country level. Summing all, we can surely have a better picture of what is needed to eradicate extreme poverty from the agriculture angle.

We would like also to thank the FSN Forum moderators for the valuable work in making the summary and the digest of each of the contributions. We will consider all comments received for the finalization of the FAO Extreme Poverty Framework and Strategy Plan, which we will disseminate to participants to the discussion and to interested Forum members.

Ana Paula and Maya

## Olabisi Omodara, Obafemi Awolowo University, Ile-Ife, Nigeria, Nigeria

I will like to comment on the tagged question "Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources."

One impressive thing about Agriculture is its capacity to provide the basic needs of man- food, shelter, income and other productive resources, as it supports national and international trades. It is worthy of note that the extremely poor category are deprived of the benefits whereas, this same agriculture has the capacity to proper sustainable solution to the vice of extreme poverty.

Availability of agricultural land for the extreme poor is a great constraint to poverty eradication. The land tenure systems under which many of the third world, underdeveloped and developing countries operate needs a review. In fact, land unavailability, inaccessibility, insecurity, and as well fragmentation stand mainly as causative agent of extreme poverty. Therefore, deprivations facing the extremely poor in form of social, cultural, economic are pivoted on poor land tenure systems.

Globally, the extremely poor receive and depend solely on aids and non-sustainable forms of supports from foreign nations and international organization for survival. Meanwhile these people are found majorly in the third world countries where agriculture provides occupation for more than half of the population and sustains not less than 70 percent of the citizens. it is therefore imperative that global aids and supports for the extreme poor should target not only the provision of immediate needs for survival but also commits a fair portion of the supports to empowerment of the extreme poor with collaboration of the ruling governments in the benefiting countries.

Moreover, backyard farming will play a vital role in dietary improvement and income enhancement among the extreme poor if necessary efforts are put in place to encourage this practice, and policies that can make land available to the extreme poor are implemented to that effect. Therefore, the governing authorities in the concerned countries should also take serious look at means by which the extreme poor can benefit from backyard farming.

Finding from a Study I conducted in peri-urban area of Osun State, Nigeria reveals that households that cultivated maize, plantain, spices, vegetables and root and tubers behind their houses during the rain and dry seasons improved their chances of being food secure but this practice is common mainly among the house-owners. This tells the extents to which access to land and complimentary resources can play in the lives of the have not (the extremely poor) if favorable policies are made to support them.

## Costas Apostolides, EMS Economic management Ltd, Cyprus

The experience from Cyprus was gained over the period 1960 with independence to 1970, with various projects:

1. The FAO Cyprus Water Planning project of 1969 to 1972 which planned the use of water resources and was fully implemented over a 25 year period except for areas in northern Cyprus that are North of the Green Line (ceasefire line of 1974).
2. The Pitsilia Integrated Rural Development Project prepared by the World Bank/FAO Cooperation Programme and Republic of Cyprus and implemented in 1980’s.(World Bank Loan 1483-CY, Appraisal Report 159-CY)
3. Various other programmes including the River Valleys Project, Cyprus, EU Life 1999 prepared but not funded.

The experience leads to the conclusion that agriculture cannot achieve the development of rural areas alone, but needs to be integrates in regional projects which draw from the agricultural sector, and diversify employment and income.

In the EU LIFE project above a “General Model for Sustainable Development in Rural Areas” was developed but unfortunately not tested for lack of funding and state support. Its central feature is the “Reduced Government Dependence –Self Help Model”, which harnesses and coordinates the public sector role in development, and supplements by self help. Rural Communities, NGOs , cooperative credit institutions, city dwellers, overseas emigrants from the area, and trade unions all cooperative to create initiatives for the development of the region or community, in coordinated cooperation with the state but also separately from the state through local initiatives. For example:

1. Investment in small scale tourist facilities.
2. Registration of a brand names or names for processed agricultural products by communities or NGO’s, facilitate market penetration through identity, organize festivals and activities to attract visitors and urban and overseas former residents, and improve facilities in the communities.
3. Facilitate and organize education in agricultural production, processing of local products, marketing and in nutrition in schools and in the communities.
4. Develop cooperatives or small loan financial institutions to fund local initiatives.
5. Establish links with people who have migrated or emigrated from the communities, to establish a basis for expanding the market.
6. Encourage local initiatives and coordination of state organizations, and the private sector in the communities.

Though the ideas were developed for the Mediterranean they are transferable and can be adapted to other regions, where there are strong communities and where education among the population has progressed, and communities are well organized. Furthermore exchange of knowledge on what works is important and should be a matter for research.

## Ernestine Umuhoza, Ministry of Agriculture and Animal Resources, Rwanda

Agriculture can contribute to eradication of extreme poverty through application of best agricultural practices in rural areas, by creating agriculture cooperatives to find the way of ensuring subsidence, good handling of the produce and easy marketing of the produce, creating agricultural jobs for the farmers, application of land husbandry technologies to control soil erosion and avoid soil nutrients losses to boost national.

## Joel Karsten, StrawBaleGardens.com, United States of America

1. **Under what conditions can agriculture succeed in lifting people out of extreme poverty? Particularly those households with limited access to productive resources.**

We have found that eliminating food insecurity within the poorest population of urban dwellers is best accomplished by allowing them to take some control over growing a portion of their own food supply through gardening. Planting a traditional garden presents obvious challenges and difficulties for the poorest urban dwellers as considered below.

* The poor own no land or property and are often relocating often without access to permanent access to land where gardens can be planted. The best land is rarely accessible to the poor.
* They own no tools.
* They have little or no capital to invest.
* They have little knowledge of agriculture or growing crops.
* They have little access to water, and irrigating crops would add a significant burden.
* They cannot afford fencing to prevent animals from grazing the garden.

We have a solution to solve each of these major challenges, allowing even the poorest population to become gardeners, and to take charge of a major portion of their own food supply. The solution I offer to these poor urban populations is called the STRAW BALE GARDENS® method. The solution to hunger is rooted in this revolutionary new type of gardening, which has become extremely popular in the USA, Canada and over much of Western Europe and Australia. The method is now finding its way into many parts of Asia, Africa and South America as well. It has been adopted by more than 500,000 back-yard gardeners around the world, in just the last five years and expands by 5x each year, as can be verified in social media testimony with a few simple searches online.

The STRAW BALE GARDENS® method uses a compressed bale of organic material, such as the stalks remaining after the harvest of small grain crops like rice, oats, wheat, barley, rye. Any organic materials can be used effectively, including mixtures of grass, sugar cane stalks, fallen tree leaves, weeds or other discarded plant vegetation from virtually any source. These organic substrates must be tightly compressed into bales. Often bales are created mechanically in western societies with baling machinery, where baling is commonly done. In Asia participants have fashioned simply made baling mechanisms from wood. These hand balers make bales approximately 50 x 50 x 120cm and are mechanically compressed and bound tightly with string or wire.

The bales can be placed anywhere, even on concrete, asphalt, compacted gravel, clay or on a roof top. A vegetable garden needs sun, so finding a full sun exposure is the only requirement for location. Bales are easy to transport and are made for nearly zero cost. Most rice farmers do not currently value their remaining straw after harvest and simply burn it before the next planting season. Other grasses or waste vegetation can be gathered and made into compressed bales and used for this gardening process. Making a bale may take five minutes to accomplish by hand, but the input costs are nearly zero in most cases.

The bales must be prepared for two weeks prior to planting. In traditional western countries simple refined fertilizers are readily available and are applied to the bales over ten days to encourage rapid decomposition. The nitrogen in the fertilizer feeds the bacteria inside the bales, and this rapidly decomposes the organic material breaking it down into virgin “soil” or compost inside the bale. This newly formed compost or “soil” inside the bales provides nutrients to newly planted vegetable crops. Graywater from washing can be used to add moisture to the bales eliminating the need to acquire water especially for a garden. Straw has a great capacity to capture and store moisture inside the bale. A bale can hold from 6-8 liters of water in each bale, which serves as a reservoir for moisture to keep roots healthy.

In many poor communities, there is a lack of available refined fertilizers. Any fertilizers that are available can be cost prohibitive for the participants. A practical solution that is free is to use human urine to condition the bales. Approximately seven liters of urine applied over ten days will adequately feed the bacteria in the bale to begin decomposition. NO FECES should be used for this process, as the potential for disease is of great concern.

The bales are prepared and ready to plant after just 2-3 weeks, and within 30-45 days the bales are already producing harvestable crops. Planting from seed makes the cost low, and saving seed is a simple skill that can be taught easily to even those without much experience in gardening.

* No land is required, the bales can be placed anywhere, and can be moved if necessary even during the growing season.
* No tools are required for this method of gardening.
* The bales can be made by hand using free components and repurposed string, or wire.
* Very little education or skill is required to utilize this method.
* Waste water, or graywater can be used on the bales, and little additional water will be required.
* Bales can be placed in an area to avoid animals grazing, near the home, on a roof, or inside of any existing natural barrier.
1. **What is the role of ensuring more sustainable natural resource management in supporting the eradication of extreme poverty?**

A major concern of many rice producing countries currently is the environmental contamination of rice straw burning. Many governments and non-governmental agencies are currently working on solutions to prevent farmers from burning their straw, however without any incentive, farmers are not often cooperative. Paying for the straw to be collected and made into bales is the easiest way to provide incentive to stop the burning. Collect the straw and make bales for delivery to urban populations at low cost would help solve this problem and provide inexpensive access to newly trained urban gardeners. The straw could be mixed with other green fresh organic material such as grasses to balance the carbon:nitrogen ratio and encourage better performance of the decomposing bales.

The bales, after use, will have become beautiful compost, which can be used again for another crop. Creating or building a container to hold this compost is often beneficial. This could be repurposed containers or using other “bagging” methods with holes cut into bags for planting.

Once completely decomposed the composted straw can be used to build up or improve the soils in any existing farm plot.

Any method introduced that requires a continuous input by outside parties to sustain it, even cash inputs, will result in the poor continuing to be under the thumb of those in power. Any agricultural method that damages the environment or doesn’t result in positive environmental consequences will eventually be stopped by those with environmental concerns. By devising a solution that improves the environment in conjunction with providing great results quickly and with substantial production of vegetable crops, it insures the future of the method is secure and sustainable indefinitely.

1. **Can those without the opportunities to pursue agricultural production and to access resources such as fish, forests and livestock find pathways out of extreme poverty through these sectors?**

One concern for many of the poorest populations is food storage, especially with vegetables which often benefit from refrigeration after harvest. Having the garden close to the home, allowing the harvest and consumption of crops within just moments, thus eliminating concerns about storage and refrigeration, and providing the finest quality vegetables available. Better than the finest restaurants catering to the richest men in the world can provide. In addition, some of the scraps and by-products of the vegetable garden could be used for feeding poultry, which can generate eggs for protein as well as meat for consumption. The production of other livestock such as rabbits is also highly probably with excess production from gardens which eventually overflow with production. Learning to preserve vegetables through canning, freezing, and dehydrating crops can also become a part of a successful food gardening program over time for those who live in climate where production cannot be sustained throughout the year. An important consideration is the ability of the bales to easily and quickly drain moisture from heavy sustained rainfall, that even in climates with monsoon rains during certain times of year, the crops can still grow without the same issues that are impossible to deal with in traditional soil gardens. This exceptional drainage capacity allows production even during the rainy season in tropical climates, when normal gardens are flooded daily and must be covered by greenhouses and built in expensive raised beds. Production of fresh vegetables during this time of year can allow the producer a captive market for selling excess production to the marketplace and make profits that other growers find elusive during these difficult growing periods.

1. **What set of policies are necessary to address issues connecting food security and extreme poverty eradication in rural areas?**

Allowing for urban dwellers to have access to community spaces within close proximity to their dwellings to set up small gardens is key. The soil is not a concern, nor is the slope the surface or other conditions that would traditionally make gardening impossible. Concerns about the theft of crops produced are an issue, and thus keeping bales and gardens close to dwellings is key to preventing these concerns. Convincing local governmental officials to support these new urban gardening efforts is key to their success.

1. **Can you share any examples of experiences that succeeded in reducing (or eradicating) extreme poverty through an agricultural pathway?**

We have many examples of successful gardeners around the world, who have taken control of much of their own food supply by growing their own food in a Straw Bale Garden. Many of these people from the poorest population within the community. Several examples in public housing sectors in the USA, including Detroit and Minneapolis, where some of the toughest neighborhoods in the country exist. We have several other proof-of-concept success stories in Argentina, South Africa, Philippines, Cambodia, Korea, Nepal, Netherlands, and many other countries.

One great example is near Davao in the southern Philippines, where bales were delivered to an urban housing facility with many very poor people. The project was funded via a grant program, however the cost of the gardening project itself (less the administrative costs due to start-up costs) was under $50 for 50 participants, so the cost is very low at approximately $1USD per participant. Once the concept is expanded, the cost could be driven to virtually zero or become profitable, pending the sales of bales to participants at a very low cost with a small profit margin, and/or donations of produce back to the program for sale to local markets, restaurants or schools.

It is really important to understand that producing food is just a part of what is accomplished by these urban gardens. Providing food for the participants and their families, is fundamental to success, but an immeasurable part of the project is the self-esteem and personal development of the participants. When they learn these unique and new special methods for growing their own food and sustaining a supply of food for their families, it gives an amazing sense of pride and accomplishment to these individual participants. It is easy to see the spread of this enthusiasm as the participants are eager to share what they have learned with other neighbors and friends, as they teach what they have learned about how to grow food using the STRAW BALE GARDENS® method.

For more information about the STRAW BALE GARDENS® method, please visit our website StrawBaleGardens.com or Facebook.com/LearnToGrowAStrawBaleGarden or simply google “straw bale gardening” and begin researching there.