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INNOVATIVE INCLUSIVE AGRI-ENTREPRENEURSHIP MODEL FOR FARMING IN HILLS OF UTTARAKHAND STATE

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ABSTRACT:

This paper is all about inclusive growth in terms of its need, evolution and models. Having discussed the generalities of inclusive growth, the paper boils down to the pathetic state of agriculture in the hill districts of Uttarakhand State and attempts to build an innovative inclusive agri-entrepreneurship model which seeks to create agri-entrepreneurs who in turn use all their skills and knowledge with the help of a large number of institutions engaged in

various development activities, schemes and programs as viable backward and forward linkages and turn a subsistence agriculture and farming into a business venture with the help of the farmers and share the profits with the farmers and create a winning combination of business and CSR out of Farming.

KEYWORDS: *Inclusive growth, Growth models, Agricultural innovation, Agri-entrepreneurship, Declining Agriculture, Migration, Economies of scale.*

1. INTRODUCTION

We begin this paper with the concept of growth, development and inclusive growth followed by the discussion on the various growth and inclusive growth models and then arrive at the discussion of some experiments that are going on in India about the growth of agriculture and suggest the innovative inclusive Agri-entrepreneurship growth model for agriculture development in a small part of a hill district of Uttarakhand State (U.K.). There has been a great debate

in development economics on growth and development for a long time which has almost settled down now and enunciates that growth and development are complimentary to each other. The former is about the number (quantity) say the growth rate of national income or any other macroeconomic aggregates of the economy or the firm whereas the latter is more concerned about the equity (quality) issue which envisages how equitable is the distribution/ benefits of growth across the entire populace of the country. Hence, if a nation can achieve high rate of growth and is in a position to ensure that the benefits of the growth are not pocketed by a few, it is achieving both the objectives of growth and equity.

In other words, growth with social justice (equity) is development.

What are the models of growth and development in general and in case of India in particular? The development economics and planning talks about this abundantly. There are many theories of development and models of growth right from Harrod-Domar model (HDM) to Mahalanobis model of growth which impinge upon different sources of growth. HDM emphasizes upon the rate of investment and capital productivity; Kaldor model identifies rate of growth of output capacity and the capital-output ratio as the two key sources of growth. Joan Robinson model of capital accumulation, Solow Model of Long run growth,

etc. all were, by and large, extension of HDM.1 Subsequently technology was brought into discussion and was considered important source of growth. As regards the Indian growth model, it is based on Mahalanobis four-sector model which essentially is an allocation model where the allocation of funds is made towards four sectors namely: the investment goods sector, the factory produced consumer goods sector, the small household produced (including agricultural products) consumer goods sector and the services producing sector.

The Global economy is facing serious crisis in terms of wealth distribution, unemployment, malnutrition, poverty as well as environmental degradation. As per the latest New Oxfam report published on Monday 19th January, 2016 shows that the share of the world's wealth owned by the best-off 1% has increased from 44% in 2009 to 48% in 2014, while the least well-off 80% currently own just 5.5%. It further added that on current trends the richest 1% would own more than 50% of the world's wealth by 2016.2

As per the ILO report, 201 million people are facing unemployment worldwide which is likely to go up to 219 million by 2019.3 Global Nutrition Report, Washington DC (2015) says malnutrition effects 1 in 3 around the World. The \$1.90 per person consumption per day threshold for extreme poverty is a standard adopted by the World Bank and 1/6 of the world's population, or 1.4 billion people—lack the ability to fulfill basic needs, whether it means eating only one bowl of rice a day or forgoing health care when it is needed the most. Therefore, it is imperative to find solutions to foster economic growth in an inclusive manner, where the gap between the rich and the poor narrows, not only in terms of income, but also in other dimensions such as employment, asset creation and livelihood opportunities that could be shared more equally.

Income inequality and poverty are the twin problems of the World economy from the very beginning of economic history and India is no exception to it. Immediately after the World War II, the focus shifted on economic growth and with growth the policy debate on the economic relationship between growth, inequality and poverty started with Simon Kuznet's (1955) and Solow's (1956) models. However, the debate primarily centered around growth in terms of various models and their efficacies. Keynesian State intervention with prime focus on investment became the main strategy of growth in the sixties and the free market policies advocated by the monetarists and the neo-classical economists came to the fore in the mid 1970s whereas in the late 1980s the focus of development theory shifted towards the trickle down proposition, which culminated with Washington Consensus (WC).

The Washington Consensus failed to address the problem of poverty and inclusive growth both in the industrialised economies and other economies in the early 1990s and the pressure of institutional economies forced the International Monetary Fund (IMF) and World Bank to address the problem of inequality and poverty through Pro-Poor Growth (PPG). This was followed by the Millennium Development Goals (UN, 2000) which shifted the focus from growth to equity of which inclusive economic growth was a main component.

This paper aims to build an innovative inclusive agri-entrepreneurship model which has never been attempted earlier in the State of U.K. and in order to arrive at that model an attempt has been made to discuss the evolution of inclusive growth through literature survey with a focus on the theoretical architecture of inclusive growth model. Subsequently, since the suggested model primarily is based on farm sector activities, two innovative agriculture development models which have already been in existence have been discussed with a view to know whether some of the features of these existing models can be replicated in the suggested model. We have identified two districts where there has been a huge migration of population and out of the two districts we have selected only a small part of one Development Block namely Salt Block of Almora District which could be selected to try out this innovative inclusive agri-entrepreneurship model on a pilot basis. Entire research paper is based on the secondary data and more importantly based on the experience and observation of the author who hails from U.K. and has seen the plight of hilly villages of U.K. year on year and has studied and raised various developmental issues of U.K. from time to time with planners and politicians.

The paper is organised as follows. Section 2 reviews literature by examining the evolution of inclusive growth in general followed by history of inclusive growth in India. Section 3 discusses innovation in agriculture with the help of two models. Section 4 begins with the state of declining agriculture and huge migration of population in UK followed by the availability of technical know-how and other important resources that are available in the State and finally the architecture of the innovative agri-entrepreneurship model. Section 5 concludes the paper.

2. LITERATURE REVIEW

2.1 Evolution of Inclusive Growth

How to define inclusive growth? UNDP's International Policy Centre for Inclusive Growth (IPC-IG) preamble reads the "Inclusive Growth is both an outcome and a process. On one hand it ensures that everyone can participate in the growth process, both in terms of decision making for organizing the growth progression as well as in participating in the growth itself. On the other hand, it makes sure that everyone shares equitably the benefits of growth" (Islam R. and Islam I. 2015:20).

Development economics is witnessing a paradigm shift from Pro Poor Growth (PPG) to inclusive growth. Growth means increase in real per capita income, whereas development means growth with human face. For decades many countries focused on accelerating the economic growth and found out that it is not sustainable as it is leading to a sea of poverty with the portends of economic instability and social unrest. In the literature, generally two terms PPG and Inclusive Growth are very often used interchangeably, though there is a subtle difference in the two. PPG is identified as that which reduces the income poverty. For Kakwani (2000) PPG is defined by the increase in the income share of the poor as compared to the non poor in which case poverty falls faster, other things remaining the same. Ravallion (2004) speaks about absolute improvement of the living standards of the poor, regardless of changes in inequality. Both the definitions have different connotations and policy implications, the former (PPG) suggests that there is a trade-off between growth and equity and it is either/or kind of model which is highly compartmentalised. Conversely, if PPG is defined as growth that improves the absolute condition of the poor, PPG includes all non-perverse types of growth, and any poverty-alleviating policy is "pro-poor". In this case, equity has only instrumental value: it is a tool which may be deployed if it increases the poverty-alleviating impact of a given set of economic policies (McKinley, 2009). Much of the debates in 1990s focused on links between growth and poverty reduction measured in terms of per capita income and number of people living below poverty line. Accordingly, growth is pro poor if it reduces poverty, reduces inequality and enhances the income share of the poor (Han and Throat, 2013).

Basically, now the focus of the growth policies is on empowerment of the poor whereby the poor does not remain a mute, passive spectator, rather he participates in the growth process. According to Ali (2007) the key elements in inclusive growth are employment and productivity, development in human capabilities and social safety nets and the targeted intervention. This necessitated the need for broad based inclusive growth. Model which addresses the issue of inequity as well as empowerment. The paradigm shift to inclusive growth is evident from the Approach Papers of 11th Five Year Plan of Government of India (2007-12) which focused on faster and more inclusive growth and 12th Five Year Plan (2012-17) which focused on faster, sustainable and more inclusive growth. Inclusive growth is broad based high growth in which the poor not only benefits therefrom but also participates in the growth process. It not only creates new economic opportunities but also ensures the equal access to them by all, particularly the poor the maximum possible extent. Asian Development Bank (2013) defines inclusive economic growth that results in a wider access to sustainable socio-economic opportunities for a broader number of people, regions or countries while protecting the vulnerable, all being done in an environment of fairness, equal justice and political plurality. Ranieri and Ramos ((2013) follow the concept of benefit sharing and participation to measure inclusiveness. Inclusiveness of growth is the growth elasticity of poverty in the sense that poverty reduction is the overall objective of any policy debate over a period of time (Han and Thorat, 2013). It depends upon two factors (a) income growth and (b) income distribution (Anand et al, 2013).

2.2 History of inclusive growth in India

In India despite significant efforts by the government and other organizations to eradicate poverty, the problems and consequences of poverty are still existing and hampering the growth of the country. There is a large disparity between the equality and income levels of the rich and poor and hence innovative strategies of inclusive growth on the one hand and huge outreach of such interventions to different parts of the country on the other play a very important role to reduce this gap and balance equilibrium between the two. Several steps have been initiated to introduce inclusive growth right from the beginning of Five Year Plans in the form of Community Development Program in the sixties, target group approach and regional development models in the seventies, garibi hatao movement in the eighties to the recent one of making it mandatory for companies earning more than 5 crs profit to allocate 2% of the net profit towards Corporate Social Responsibility Projects. There have been plethora of State and Central Government Schemes involving huge funds combined with international programs and private sector funding through foundations and Trusts over the years but the impact has been pretty dismal as even today India has the dubious distinction of inhabiting the largest population of poor in the World. In the years to come also the middle-income class in India is going to outpace the poor. As per the Asian Development Bank Report (2010), 83% population of India spent up to \$ 4 per day in 2010 as compared to 16.5% and 0.5% population which spent \$4 to \$20 per day and above \$20 per day respectively. The share of poor is likely to go down to 68% in 2020 whereas the middle-income group share is like to go up from 16.6% to 31% during 2010-2020.

3. INNOVATIONS IN AGRICULTURE

Needless to say, a highly heterogeneous and diversified country like India, inclusive growth requires umpteen numbers of approaches, strategies and models to address the inclusion and empowerment problems of different target groups. And since agriculture is and will continue to be the main source of employment and to some extent growth, innovations are required to transform Indian agriculture in a very innovative way particularly when its growth rate has slowed down on an average 1.75% per year since 1996-97 as against the required rate of 4% . On the other hand, the farmers community has been facing rising input costs, declining returns from the inputs, uncertain market, deficit rainfall, droughts and abandoning agriculture altogether etc,. To assist the farmers in these changing and challenging contexts, new strategies and innovative solutions are urgently required which in turn will require technological support, entrepreneurial mindset, commercial attitude, risk taking ability and proactive government support. Hence there is an urgent need to take up innovative agri-entrepreneurial projects where agriculture is not seen as just subsistence agriculture but is taken up as a business enterprise and thereby the potential of farming sector is fully unleashed.

3.1 Agricultural Innovation in Andhra Pradesh (A.P.)

World Bank publication: "Agricultural innovation Systems- An Investment Source Book" (2012) profiles an innovative activity of agricultural innovation in A.P. which mainly highlights the rural institutional platform that has created a synergy at different layers namely Self Help Groups (SHGs) at the grass root level, Village Organisation (VO) and Sub district federation in the middle and Federation of SHGs at the District Level which compliment each other through various support services and help improve the quality of life of SHG Farmer households. The authors of this activity profile: Larson G. and Williams M. (2012) highlight the roles and responsibility as well as activities undertaken by the four entities which create the institutional network under the aegis of the Society for the Elimination of the Rural Poverty (SERP), Government of Andhra Pradesh (GOAP) as a sensitive support structure to facilitate poverty reduction through social mobilization and improvement of Livelihoods of rural poor in Andhra Pradesh. The organisational structure of this innovative model comprises of the SHGs at the grass root level and District Federation at the district with layers in between. About 20 SHGs organise into a Village Organisation (VO) and about 300 VOs on average organise into sub-district federation and about 40 subdistrict federations organise into very large district federations each with 3 lacs to 5 lacs members. This platform of federated institutions brings economies of scale and scope that allow

community members to build assets, smooth consumption, access services and safety nets, and invest in livelihoods to raise themselves out of poverty (Larson G. and Melissa Williams 2012).

To elaborate the modus operandi of this institutional arrangement further, farming households of SHGs, about 20 of which federate into the VO develop a micro credit plan with the help of their VO and are linked to commercial banks through their sub-district and district federations. The VOs also manage enterprises such as procurement centers for agricultural commodities and milk which provide grading, quality control, aggregation, and value addition for products. At the sub-district level, federations invest in enterprises such as chilling centers for milk to increase shelf life. Meanwhile, the district federation manages a number of support functions, including running an insurance scheme for members through a network of call centers. Together, these activities help farmers receive higher prices and foster an environment that favours profitable agriculture. This support along the value chain of agriculture makes farming sustainable from an economic perspective. At higher levels, the federation organizes training, engages NGOs and government agencies for additional support, and monitors progress, manages convergence with government programs, manages marketing ties with private sector and maintains MIS/IT information system.

As a component of training, farmers have also used this institutional platform to practice community-managed sustainable agriculture which primarily focuses upon the knowledge-intensive alternative to input-intensive agriculture. Farmers SHGs learn about the harmful effects of chemical pesticides and fertilizers on soil, water, and health and they gain access to farmer field schools, seed banks, equipment centers, finance, and procurement centers, all organized by their respective VOs. District and sub-district federations market the agriculture produce of the SHG farmers. Through the district federations, farmers can use funds from the National Rural Employment Guarantee Scheme, a social safety net ensuring every rural poor household has at least 100 days of paid work each year, to pay for on-farm improvements for sustainable agriculture. Examples include transplanting tank silt to farms, leveling land, or building structures to capture rainwater. In this way, this model not only helps farmers to mobilise themselves to undertake sustainable agriculture practices to produce on farm and off farm products through various kind of financial and technical support but more importantly they get the marketing support to sell the produce. Another distinguishing feature of this model is the empowerment of farmer community by helping them to create assets which generate income on a sustainable basis.

3.2 Agri-Clinics and Agri-Business Centres(ACABC): GOI initiative

This scheme is implemented by the National Institute of Agricultural Management (NIAM) for training component and NABARD for subsidy component and has been in existence since 2002. Since inception 45838 candidates have been trained and 19391 agri-ventures have been established in the country till 31 Dec. 2015. Under this scheme the training is imparted to unemployed candidates who possess degree/diploma in agriculture and allied subjects, intermediate in agriculture and science graduates with PG in agri related courses through selected nodal training institutes (NTI) in various parts of the country. The NTIs also provide hand holding to the trained candidates for establishment of agri-ventures in agriculture and allied areas and facilitates in providing loan assistance from banks and subsidy support from NABARD. The trained agri-entrepreneurs are involved in providing advisory and extension services to the farmers in agriculture and allied areas (Ministry of Agriculture and Farmers' welfare, Directorate of Extension, Krishi Vistar Bhawan New Delhi 2016).

Under this scheme, there is a provision of credit linked back-ended upfront composite subsidy on the bank loan availed by trained candidates. The subsidy is 44% in respect of women, SC/ST and all categories of candidates from North-Eastern and Hill States and 36% in respect of other categories. The subsidy is admissible for loans up to Rs. 20 lakhs in case of individual and 100 lakh in case of Group Projects (for ventures set up a group of 5 trained candidates).

4. DECLINING AGRICULTURE AND MIGRATION IN UTTARAKHAND

Before suggesting Agri-entrepreneurship Model in Uttarakhand Hills, let us look at the key concerns related to the decline of agriculture in the mountain districts of Uttarakhand. Uttarakhand State is facing an acute problem of migration. With very small and marginal uneconomic land holdings, moderate to low fertility soils and poor irrigation facilities, most mountain families are unable to grow enough food grains to meet the annual household requirements. Second, there has been menace of monkeys and wild pigs in a large number of villages in many community development blocks including Salt Block of Almora district which incidentally is identified as a block for the innovative agri-entrepreneurship model. Third, all the families of Uttarakhand, BPL families as well as APL families are covered under Public Food Distribution System wherein each family gets sufficient wheat and rice per month at a very subsidised rates and with a paltry amount of Rs. 350 to Rs. 500 one household gets sufficient food grains. Due to these reasons, families have given up agriculture in the last quarter century or so. Hence, many families have migrated from mountain districts to the its southern plain districts as well to the main cities of Delhi NCR Region and other parts of the country. And other families who have given up agriculture comprise of old and women with some or the other family member working in the plains or in defense forces and sending money on regular basis to old and women folks. This is reflected in the comparative decadal-wise growth rates of population between 1991-2001 and 2001-2011. (Refer Table:1)

Table 1: District wise comparative decadal growth rate of population of Uttarakhand

District	Almora	Bageshwar	Chamoli	Rudraprayag	Pauri Garhwal	Tehri Garhwal	Pithoragarh
Population	622,506	259,898	391,605	242,285	687,271	618,931	483,439
Change in decadal growth rate*	↓ 135%	↓ 55%	↓ 58.6%	↓ 51.37%	↓ 136%	↓ 85.5%	↓ 58.17%
District	Uttarkashi	Champawat	Nainital	Haridwar	Dehradun	Udham Singh Nagar	
Population	330,086	259,648	954,605	1,890,422	1,696,694	1,648,902	
Change in decadal growth rate*	↓ 48.46%	↓ 11.1%	↓ 23.2%	↓ 6.7%	↓ 29.32%	↓ 0.4%	

Source: Census 2011; Statistical Dairy 2013-2014, Uttarakhand state government

*Change in decadal growth rate between 1991-2001 and 2001-2011

By looking at Table:1, it is evident that 10 of the 13 districts led by Pauri Garhwal and Almora have seen a decline in decadal growth rates of population during 1991-2001 and 2001-2011 (Census 2011 and Statistical Dairy U.K. 2013-14). If we go by the absolute figures of population in these two districts, we find that there has been an absolute decline in growth of population of these two districts by -1.41 and -1.28% during 2001-2011. Since U.K. State was formed in 2000, it suggests that the formation of the State contrary to the expectations that it will bring about growth and create income and employment opportunities for the hill districts witnessed the decline in population in the hill districts and an increase in population of plain districts. The decline in population in the hill districts can be attributed to the migration of population either to the plain districts of U.K. or elsewhere. A news report states that 1,065 villages in Uttarakhand have become 'ghost villages' because hardly anyone lives there (Umar B. 2012). As per Census 2011 of Uttarakhand's 16,793 villages, 1,053 have no inhabitants and another 405 have a population of less than 10. The number of such specter villages has

reportedly risen particularly after the earthquake and flash floods of 2013. Recent media reports put the number at 3,500 (Shreeshan Venkatesh 2015).

The migration of population and the decline in agriculture is chicken and egg kind of story in U.K. in terms of the cause and effect analysis. One is not sure whether migration is happening due to the decline in agriculture or vice-versa. The fact is that Agriculture showed the lowest growth rate among all the sub-sectors during 2004–13. Its share in the state GSDP (at constant prices) fell from 16.7 per cent in 2004–05 to a mere 7.8 percent in 2012–13 (Chopra Ravi 2014). But according to the Census 2011, more than 51 per cent of the state's workforce is employed in agriculture. 91% of the land holding are marginal and small land holdings. According to the Union Ministry of Agriculture, the net sown in area in the State has declined by around 10 per cent, from 769,944 ha in 2000-01 to 701,030 ha in 2013-14 (Shreeshan Venkatesh 2015). The forest cover has been significantly reduced both in density and area, which has created other serious problems like soil erosion and loss of water-storage capacity in the hill areas. It has increased the scarcity of water as the natural springs started drying. Increased loss of top-soil (soil erosion) combined with a drop in already poor irrigation facilities have affected agriculture and the large population dependent on it. Further, it has added to the plight of the hard-working women for whom natural water sources provide water for daily household use.

4.1 Technical know-how for development of Agri-entrepreneurship in U.K. Hills

There are as many as 13 Krishi Vigyan Kendras of Indian Council of Agriculture Research (ICAR) in U.K. state of which Almora and Nainital Districts are having two kendras in each district. In addition, ICAR has ICAR-Indian Institute of Soil and Water Conservation in Dehradun. Govind Ballabh Pant university of Agriculture and Technology Pantnagar, IIT Roorkee offering Agricultural Engineering PG Program. HN Bahuguna Garhwal university's School of Agriculture and Allied Activities and Department of Forestry and Allied Sciences and Department of Horticulture are some other institutions which could be a part of resource pool and expertise to promote agri-entrepreneurship model in U.K. In terms of planning and extension of agriculture, we have ministry of agriculture, Directorate of Agriculture and Department of Horticulture with a wide network of extension staff down to the block level.

In fact, Vivekananda Parvatiya Krishi Anusandhan Kendra, Almora has already prepared a Vision 2030 Plan which talks about various strategies and has set up 7 goals, of which, enhancing value addition and processing of food commodities is one of the goals under which it envisages to develop technologies and products, forging functional public private partnership for commercialized agro-processed products and launching pilot research models that link producer, entrepreneur and market (Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora: Vision 2030, June 2011). Indian Council for Research on international economic Relations New Delhi has suggested a diversified agriculture products to include fruits, spices and herbal/medicinal plants for Almora District (Mittal Surabhi, Tripathi Gaurav, Sethi Deepti 2008). Like-wise OXFAM India has also suggested that "Mountain agriculture needs to be revived in a sustainable manner. It can be done by integrating high value crop cultivation, basic agro-processing at the farm level, dairying, horticulture and floriculture with adequate market linkages. 'Voluntary Organizations (VOs) can provide value chains development support to communitybased organizations' (Chopra Ravi 2014).

Around 71 per cent of holdings are marginal and area operated by this category of farmers is merely 0.35 hectare. Further, 18% of operational holdings are small operating less than 2 hectares of area. The size of these holdings is extremely tiny and therefore, scale of economies cannot be availed which makes crop husbandry unviable proposition (Tuteja Usha 2013). Due to the uneconomic size of landholdings in hill districts, the idea of cooperative farming is slowly gathering steam in rural Uttarakhand as a viable alternative to traditional individual farming. One such farm, Gauri Swayam Sahayata Samuha has 26 families collectively farming on about two hectare of pooled land in Gaurikot village about seven kilometres from Pauri. Supported by a Rs 5 lakh loan taken from A R Cooperative, the group has invested in horticulture, fish farming, poultry farming and vermiculture. The collective farming makes use of new technologies like hand-held power tractors to increase efficiency in the farms (Chopra Ravi 2014). In addition, organic farming, consolidation of land holdings etc. are some other

initiatives that have been taken up to keep the interest of the people alive in mountain agriculture. Keeping into consideration the subsistence nature of agriculture primarily due to tiny land holding size and rain-fed agriculture, the Uttarakhand Land Consolidation Bill has been drafted and is expected to become an act. The new bill targets the stemming of three major social problems in the state — unemployment, migration and farmers' expense of time and energy in managing lands belonging to them that are often divided and scattered. According to TOI has learnt that voluntary consolidation of land holdings for 200 villages will be conducted in the first phase by 2016. Nearly 60 villages have sent their consent for consolidation, with the maximum number of such villages, 14, from Almora (Azad Shivani 2015).

4.2 Innovative inclusive Agri-entrepreneurship model

Based on the above mentioned literature, it is very clear that the strategies, models, plans and schemes are run-of-the mill kind of strategies which focus upon the diversification of agriculture, integrated agriculture, high value added agriculture and allied activities in the existing farming system by various existing development agencies including non-governmental organisations (NGOs) along with the farmers, by the farmers and for the farmers. The basic assumption of these strategies is that farmers are willing to experiment with these innovations on the one hand and NGOs are willing to work with the farmers and invest. This kind of a proposition may come true in mountain areas where people are still actively pursuing subsistence agriculture and with the help of extension agencies, research institutions and voluntary organisations (VOs), they will become the part of the agriculture transformation process. However this model of agriculture and allied activities development does not address the problem of those areas where farming has been given up fully or partly for reasons such as paucity of rains, menace of monkeys and other wild animals, absence of young folks, availability of food security and hence indifference towards uneconomical agriculture etc. Some blocks in Almora and Pauri Garhwal characterize these features and hence require different kind of a treatment, hence this Innovative inclusive Agri-entrepreneurship model is suggested. Needless to say, in these villages, precious assets such as land, fruit plants, fodder plants, schools (due to low number of students), community assets etc, are going waste.

4.2.1 Basic Assumptions of the Model

- Agriculture and allied activities in these areas can be taken up as business activities by some Agri-entrepreneurs.
- Cluster based approach of pooling several villages together and based on the agro-climatic conditions and infrastructure development different farm based economic activities can be taken up by keeping economies of scale in view through consolidation of land holdings, forest area and community lands.
- Support resources related to agriculture research about soil testing, appropriate technologies, markets, financial resources, extension agencies, government support etc, are available.
- Farmers are willing to lease their agriculture land for minimum five years period to the agri-entrepreneurs on mutually agreed terms and conditions in terms of annual rent and employment and wages to those who work on farming. Whereas the area under horticulture and social forestry will be leased out minimum for 15 years. Farming practices on land will improve the quality and value of assets of the farmers and thereby inclusive growth will happen.
- Government support in terms of food security to the landowners, as it exists today, will continue in future also and since there is no tax on agriculture, agri-entrepreneurs will pay no tax on agriculture and allied activities income.
- Agri-entrepreneurs will avail the NABARD subsidy as is available to Agri-Clinics and Agri-Business Centres (ACABC) scheme of government of India.
- A PE firm, CSR fund particularly those companies which are into agro-processing such as ITC, Godrej industries etc, or consortium of banks will come forward and support this model on a pilot basis

by pooling all the priority sector lending funds and other funds and make them available to the agri-entrepreneur.

- Most importantly government of U.K. lends all support to the agri-entrepreneurs by setting up a coordination cell.

4.2.2 Location of the Pilot Project

Salt is a community development(C.D.) block as well a Tehsil having 232 villages as per census 2011. It is divided into four parts namely, Walla Salt, Palla Salt, Talla Salt and Malla Salt. Out of these, Walla Salt may be taken up as a pilot project for promoting agri-entrepreneurship model. The selection of cluster of villages may be based on various parameters such as roadside villages, remote villages, villages with relatively big land holdings, villages with tiny land holdings, villages where agriculture is completely given up, villages where cultivation is partly done etc. The basic idea is to select a contiguous cluster of villages and based on the location, size of the land holdings, identify various farm-based activities which could be namely cultivation of high value crops, horticulture, floriculture, medicinal plants and afforestation. Essentially it will be diversified farm-based production which if done by an individual farmer will be uneconomical but if done on a bigger scale will definitely result into economically viable, profitable and sustainable.

4.2.3 Modus Operandi of the Model

Agri-entrepreneurs will be selected from Pantnagar agriculture university, Department of agriculture and horticulture H. N. Bahuguna Garhwal university and IIT Roorkee Agricultural Engineering PG Program. These post graduate students will be identified from the beginning of the program to take up this pilot project and one entire semester they will spend to study the select areas with the help of Department of Agriculture/horticulture government of U.K. in terms of feasible mix of farm based activities that can be taken up in the select areas and prepare bankable Business Plan by identifying village -wise and area- wise activities, inputs required, cost of inputs, technologies used, estimated production, operational expenditure, market linkages, stakeholders involved, sources of funding, profit projections etc. More importantly, they should prepare a comprehensive implementation program which should specify who will do what with clear cut, well defined roles and responsibilities. This could be a part of internship or choice-based credit courses.

As regards the organisational structure of the venture, it will be a legal entity with proper Board of Directors (BOD) having representation from agriculture university, ICAR, NABARD, SIDBI, Department of agriculture/horticulture U.K, farmers representatives, legal expert etc.

Government of U.K. will have to play an important role in terms of calling a meeting of local gram sabha representatives, opinion leaders, farmers community, MLA, MP and some people who have impeccable and clean image in the eyes of the people in general to convince the farmers community that the land that is being leased out, the ownership of the same will always remain with them and that they will get some rent (as against no income at present) on a yearly basis as shareholder. The number of shares will depend upon the size of the land leased out. In addition, those who want to work on the farming, they will be paid minimum wages as per the minimum wage act. Another benefit which is a long-term benefit to the landowners is that the quality of their land which is now being used for farming purpose will improve. There could be some farming which may perhaps be in the form of social forestry which will not yield income during the contract period of five years for which a separate agreement will have to be made. After 5-year, the contract can be renewed by mutual consent.

4.2.4 Operational Matrix

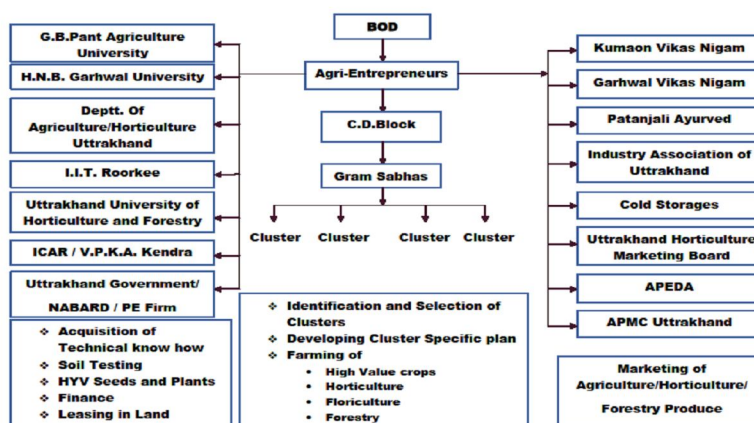
The guidelines of this pilot project in Salt Block of U.K. State will be designed by the Department of Agriculture, Department of Horticulture, Department of Social Forestry and Department of Rural Development by taking the approval of the Cabinet. Subsequently, the draft concept paper will be prepared which will be sent to NABARD and Vice Chancellors of G.B. Pant University, IIT Roorkee, H.N. Bahuguna Garhwal University for their comments for finalisation of the concept paper. Once the

Concept paper is finalised which will be done by the Secretary Ministry of Agriculture U.K. Subsequently, the Vice Chancellors of these universities will be asked to identify the Agri-entrepreneurs who in turn will be given the internship to conduct feasibility of innovative farming in the Select Villages of Walla Salt Block of Almora district.

4.2.5 The Model

The model is like a tripod wherein the Legal Entity/Organisation/Agri-entrepreneur with its extension network is at the center and develops backward linkages with various stakeholders in terms of acquisition of technical know-how such as quality of soil, high yielding variety (HYV) seeds, cultivation technologies in tiny terrains, medicinal plants and their markets, fast growing plantation trees, flowers cultivation and markets, horticulture plants and markets, private equity or bank finance from the financial institutions, leasing in of land from the farmers community, various inputs from the ICAR/ Vivekananda Pravatiya Krishi Anusandhan Kendra (VPKAC) etc,. Having acquired all the necessary inputs, Agri-entrepreneurs implement the program with the help of local farmers communities, block extension staff, revenue officials and its own Board of Directors. And finally sells the agriculture, horticulture, floriculture and forest produce with the help of agencies such as Kumaon Vikas Nigam, Garhwal Vikas Nigam, Patanjali Food and Herbal Park, Industry Association of UK., Cold storages of food corporation (FCI), UK Horticulture Marketing Board, UK agriculture produce marketing committee (APMC), agricultural and processed food products export development agency (APEDA) etc,. The model of Agri-entrepreneurship is given in the following chart.

AGRI-ENTREPRENEURSHIP MODEL



5. LIMITATION

The model is based on one single most assumption that all the stakeholders participating in this innovative model of agriculture are agreeable to work together and offer backward and forward linkages to each other while implementing the model in the given block and in the given area. This assumption is derived by the authors based on some unstructured discussions, the authors had with few important stakeholders such as farmers, opinion leaders, local MLA, students of M.Sc. Agriculture, Professors of department of agriculture and horticulture, block extension officers, Director Agriculture, Govt. of Uttarakhand and Minister of agriculture and rural development. Obviously, the representation and observation of each category of stakeholder was limited to a small number of people and it might turned out that the larger number of stakeholders particularly the farmers may reach to a different kind of a consensus mainly in terms of modalities of renting out their land and the share of benefits that they receive from their land holdings. Hence, this model at best is a basic architecture which will give

sufficient and serious thoughts and ideas to the Ministry of Agriculture and Horticulture, Govt. of Uttarakhand to devise its policies regarding development of hill agriculture.

6. CONCLUSION

The model suggested here is a very innovative model which basically is very akin to contract farming and the innovative element in this model is to explore and offer opportunities to agriculture post graduates who have learnt all about agriculture, farming, marketing, technology etc, during their PG degree from reputed agriculture universities/departments and it is envisaged that few of these post graduates find this business proposition interesting and make a business out of agriculture. Hence it a paradigm shift in our thinking to view agriculture as a business venture as against subsistence agriculture. This model requires a lot of social engineering to succeed as it involves a radical change in our approach- both the government machinery as well as farmers. Any change that too also radical one confronts lot of resistance and how to overcome the resistance, agri-entrepreneurs will require the people management skill on the top to display much more than the knowledge about agriculture and agriculture marketing. One may find this that farmers are playing a secondary but significant role in it in the sense that they are willing to go for this experiment and will continue to be a part of various operations particularly during cultivation, manuring, weeding, harvesting etc, which otherwise in many cases they had abandoned earlier by not cultivating their land and more importantly would like to someone show them the way as to how an ungainly subsistence farming can be turned into profit making venture. The other important element of this pilot project is the revival of the abandoned assets such as land and vegetation which will arrest the extent of asset lessness in the hills of U.K.

NOTES

1. Umpteen numbers of books are available on Development Economics and the gist of various development models has been drawn from the book "Development Economics" by H L Ahuja published by SChand New Delhi 2016.
2. The Oxfam report "An Economy for the 1%" shows that the wealth of the poorest half of the world's population has fallen by a trillion dollars since 2010, a drop of 38 percent. This has occurred despite the global population increasing by around 400 million people during that period. Meanwhile, the wealth of the richest 62 has increased by more than half a trillion dollars to \$1.76tr.
3. By 2019, more than 212 million people will be out of work, up from 201 million now, according to the ILO's report, World Employment and Social Outlook – Trends 2015.

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