

PERFORMA FOR THE HALF YEARLY PROGRESS REPORT

(Reporting Period from April 2017 to September 2017)

1. Project Information

Project ID:	NMHS/2015-16/MG03/03	Sanction Date:-	31 st March 2016
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Project Title:	Enhancing livelihood of Himalayan communities through action research and converting wild produce into high value products.
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BTG:	Supplementary Livelihood Options
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PI and Affiliation (Institution):	Dr. Rajendra Dobhal Director General Uttarakhand State Council for Science and Technology (UCOST) Department of Science & Technology, Govt. of Uttarakhand, Dehradun Uttarakhand
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Name & Address of the Co-PI, if any:	NA
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Structured Abstract - detailing the current year progress [Word Limit 250 words]:	<p>Survey of three blocks of Chamoli district (Joshimath, Karanprayag, Ghat block) was done in order to assessment of villages regarding wild fruits, nuts and berries. In this 54 villages were selected and 4067 households were surveyed for surplus production of seasonal fruits and Berries. Linkage was established with the stakeholders related to pre harvesting knowledge and harvesting methodology of project area related to wild produces. One market consultant and one technical consultant were hired for shaping up the work and assisting food technologist and MIS. Under this project oil press machine was successfully installed. System establishment was done in CFC Kaleshwar centre and SOPS for standard operation was designed for harvesting and processing of wild produces. Raw material according to the seasonal availability was procured like, Apricot, Amla, Ghingaru, Hinsar, Kaphal, wild Peach and wild Plum was purchased according to the availability. Storage study and analysis is an ongoing process. Finalization of 8 high value products (Apricot chutney, Sea-buckthorn nectar, Kafal nectar, Apricot oil, Sea-buckthorn concentrate, Semi-dried prunes, Roasted nuts, and Honey dipped walnut) was successfully accomplished. Dehydration technology was more upgraded by adding baking oven into it along with food grade quality of drums.</p>
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Project Partner Name	Affiliations	Role & Responsibilities
Partner 1	Uttarakhand State Council for Science and Technology (UCOST), Dehradun	To provide its institutional support, scientific inputs, linkages and assistance in developing linkages with renowned technical institutions and labs for research development and analysis purposes.
Partner 2	Himalayan Action Research Centre (HARC), Dehradun	Undertake the interventions at grassroots level with communities and technical institutions for livelihood promotion.

2. Project Site Details

Project Site	Kaleshwar, Dist. Chamoli, Uttarakhand (Covering 100 villages of Chamoli and Rudraprayag districts of Uttarakhand)
IHR states Covered	Uttarakhand
Long. & Lat.	Latitude: 30.28 Longitude: 79.24
Site Maps	[Attach separately]
Site Photographs	[Attach]

3. Project Activities Chart w.r.t. Timeframe [Gantt or PERT]

Project Activities	Work Undertaken (of the reporting Period ONLY)				Output
	April-Sept 2017				
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	
Scoping Study to access distribution, production, traditional knowledge on Himalayan wild produces.	-	<ul style="list-style-type: none"> Selection of other block of chamoli district i.e. POKHRI (3 villages – Jilasu, Girsha and Sem and 100 HH) Bael and Amla major crop. 			<ul style="list-style-type: none"> Addition of project area and increase in the number of beneficiaries.
Procurement of wild berries, fruits and nuts for action research and product development.	<ul style="list-style-type: none"> Procurement of wild produce like Hinsar, wild Aonla, Kingod, Kafal was done. 	<ul style="list-style-type: none"> Procurement of wild produce like Kafal, Kingod, Wild apricot (Chullu), Wild Plum (Polum), Wild Peach (Aadu), Himalayan Firethorn (Ghingaru), Wild Pomegranate (Daaru). 			<ul style="list-style-type: none"> Procurement of quality wild produces for research and development on basis of standard of procedures designed on basis of practical knowledge.

<p>Procurement and installation of equipment and accessories.</p>	<ul style="list-style-type: none"> • Installation of oil press machine was done in CFC Kaleshwar centre. 	<ul style="list-style-type: none"> • For technology up gradation installation of baking oven, better food grade storage drums, better quality stainless steel cutters and trays were done. 			<ul style="list-style-type: none"> • Better and quality product development and drying technology for high value products.
<p>Networking & Collaboration with potential agencies.</p>	<ul style="list-style-type: none"> • Regular follow up for Institutional linkages with Prasan solution, Kerela; HPMC factory, Parwanoo. 	<ul style="list-style-type: none"> • Institutional Linkage with IHBT, Palampur; CITH, Mukhteshwar; HPMC, HP; Pondicherry University. 			<ul style="list-style-type: none"> • Strong linkage on basis of technology transfer and better research and development.
<p>Research development with technical institutions on customization of technologies and processes, product trials, improved storage for developing high value Himalayan products.</p>	<ul style="list-style-type: none"> • External analytical report of Hinsar shows 27.14% antioxidant activity and Wild Aonla shows 33.46% antioxidant activity. Apricot kernel contains 73.50% of Oleic acid. Internal analysis of Kingod and Kafal was completed. • For development of high value products several research trials were conducted for Mix fruit bar, Apricot oil, Apricot chutney, Apricot bar, Hinsar crush, Sea-buckthorn concentrate, Sea-buckthorn nectar, Walnut dipped in honey. 	<ul style="list-style-type: none"> • Different product trails for high value products were done :- wild fruit, berries and nuts were carried out such as Apricot chutney, Sea-buckthorn nectar, Apricot oil, Kafal nectar, Sea-buckthorn concentrate, Semi dried prunes, Roasted nuts, Walnut honey dip. 			<ul style="list-style-type: none"> • Better designing of quality high value products after gaining complete scientific knowledge.
<p>Market Research & Study</p>	<ul style="list-style-type: none"> • Product notes for Apricot Chutney and Apricot Oil was designed and submitted. Label for apricot oil and 	<ul style="list-style-type: none"> • Label were designs for products like Apricot chutney, Apricot oil, Nutty roast, Honey dip Walnut, Sea-buckthorn nectar, Sea-buckthorn 			<ul style="list-style-type: none"> • Quality and product presentation and promotion.

	<p>chutney was also designed by the designer containing all nutrient facts.</p> <ul style="list-style-type: none"> • Cost of production for apricot oil and apricot chutney was also accomplished and its economy has been observed. After complete survey and analysis for high value products, bottles and jars were selected and finalized for designing. 	<p>concentrate, Kafal nectar and Semi dried prunes.</p> <ul style="list-style-type: none"> • Designing and customization of quality packaging material. • Product note on 13 high value products were designed. • Moulds for pet bottles designed. • Customized bottles for upcoming high value products. 			
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4. Project Beneficiary Groups

Beneficiary Groups [Capacity Building]	Target	Achieved
No. of Beneficiaries with income generation:	2997 households	4067 households
No. of stakeholders trained, particularly women:	10 women cooperative	25 women cooperative
No. of capacity building Workshops/ trainings:	10 training	2 training
No. of Awareness & outreach programmes:	In all selected Blocks and Districts	6 assessment and pre harvesting meetings were conducted with the stake holders in order to link them in procurement and harvesting procedure as well as involving them in collection of better quality of raw produce.
No. of Research/ Resource Persons Trained:	5 manpower	5 manpower

5. Project Progress Summary (for the Reporting Period ONLY)

Description	Total (No.)	Description (attach separate Annexure, if reqd.)
<i>IHR States Covered</i>	1	Uttarakhand
<i>Project Site/ Field Stations Developed:</i>	1 (attach photos) NA ... (attach maps) NA
<i>No. of Patents filed (Description):</i>	0	NA
<i>Article/ Review/ Research Paper/ Publication:</i>	0	NA
<i>New Methods/ Modellings Developed (description in 250 words):</i>	8	(SOPs) for procurement and storage of wild produce (Berberis, Kafal, Hinsar, Bhenkal, Plum, Peach, Apricot and Mehal) were designed on the basis of practical working and gaps.
<i>No. of Trainings (No. of Beneficiaries):</i>	1	Training on post harvesting and semi processing of Wild Apricot. Detailed knowledge sharing about the process.
<i>Workshop:</i>	NA	NA
<i>Demonstration Models (Site):</i>	Attach maps about location and photos (attach maps about location & photos) NA
<i>Livelihood Options:</i>	NA	NA
<i>Training Manuals:</i>	5	Harvesting and post harvesting training manual (apricot, mehal, plum peach and walnut) (Hindi and English)
<i>Processing Units:</i>	1	(attach photos) NA
<i>Species Collection:</i>	18	Several species of wild berries, fruits and nuts were collected.
<i>Species identified:</i>	7	Species taxonomically identified were-Wild peach, Kingod, Mehal , Ghingar, Bhenkal , Wild Walnut and Hinsar.
<i>Database/ Images/ GIS Maps:</i>	-	NA

Note: Photos/ maps should be attached in high quality in compatible formats viz., JPEG, .JPG, .PNG, .SHP, etc. along with a suitable figure legend/ caption.

6. Project Concluding Remark (for the Reporting Period ONLY)

Kindly brief of the following Progress Parameters (and detailed in Annexure-I) for the Reporting Period ONLY:

Objectives #	Outputs / Outcomes against Objective	Monitoring Indicators (as specified in Sanction Letter)	Measurable Deliverables (as specified in Sanction Letter)
<p>Action research and convert low value wild produce into high value products</p>	<ul style="list-style-type: none"> • Village level assessment of wild berries and fruits in Joshimath, Ghat block and Karanprayag block of Chamoli area was done. • Selection of other block of Chamoli district i.e. POKHRI (3 villages – Jilasau ,Girsha and Sem). • In this 54 villages were selected and 4067 households were surveyed for surplus production of seasonal fruits and Berries. • Ethno botanical survey was conducted of project area for collection of vast knowledge related to indigenous practices of Himalayan community. • Procurement of wild berries, fruits and nuts for action research and product development was done. • Raw produce (860kg of Apricot, 635kg wild Amla, 50kg Hinsar, 135kg Kafal, 85kg Kingod, 200kg Wild Plum, 1009kg Wild Peach, 524 Pomegranate and 53 Ghingaru were procured. • To observe chemical and physical properties of wild varieties for 	<ul style="list-style-type: none"> • Detail study report of survey and procurement of wild products. • No. of products processed and developed. (Nos.) 	<ul style="list-style-type: none"> • Access benefits sharing (ABS) framework developed addressing legal aspects. • 5 customized techniques on drying, oil extraction, decortications, longer shelf life, colour and quality retention developed for product development and storage developed. • By-products of 8 wild berries, fruits and nuts developed, 100 villages linked with women cooperatives, technologies customized and community model developed.

	<p>understanding the nature of the produce for high value product development internal and external analysis were done.</p>		
<p>Use traditional knowledge and promote high value products and benefitting both rural communities and consumers</p>	<ul style="list-style-type: none"> • For promotion of the high value products, different trails and sensory analysis of different products from these procured wild fruit, berries and nuts were carried out such as Apricot chutney, Sea-buckthorn nectar, Apricot oil, Kafal nectar, Sea-buckthorn concentrate, Semi dried prunes, Roasted nuts, Walnut honey dip. • Develop customised bottles, jars and other packaging material for high value products. • Develop label designs for Apricot chutney, Apricot oil, Nutty roast, Honey dip walnut, Sea-buckthorn nectar, Sea-buckthorn concentrate, Kafal nectar and Semi dried prunes. • Collection of market information and worldwide demand analysis of value added products from wild produces and scope of high value products in markets. 	<ul style="list-style-type: none"> • No. of beneficiaries/ villages (Nos.). • Market linkages established for developed products including ABS mechanism (Nos. of products). • Women participation in collection and production (Nos.). 	<ul style="list-style-type: none"> • Marketing linkages established for developed products in collaboration with women cooperatives. • By-products of 8 wild berries, fruits and nuts developed, 100 villages linked with women cooperatives, technologies customized and community model developed. • Photographs of different trails.
<p>To establish successful community model that is replicable and promote sustainable use of natural</p>	<ul style="list-style-type: none"> • Development of bankable plan. • Establishment of organic certification and FSSAI. • Modelling with women 	<ul style="list-style-type: none"> • Models and knowledge products developed and published out of the projects (Nos.). 	<ul style="list-style-type: none"> • Marketing linkages established for developed products in collaboration with women cooperatives.

and wild products of Himalayan region against climate change.	cooperative.		
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Methodology (in brief):	<ul style="list-style-type: none"> • 54 villages were selected and 4067 households were surveyed for surplus production of seasonal fruits and Berries`. • Purchasing of chemicals and other necessary things for the product development. • Collection of raw material like Kafal, Kingod, Wild Apricot (Chullu), Wild Plum (Polum), Wild Peach (aadu), • Himalayan Firethorn (Ghingaru), Wild Pomegranate (daaru). • Internal and external analysis of the procured wild produces. • Installation of Oil press machine in CFC Kaleshwar centre and technology up-gradation by installation of baking oven, better food grade storage drums and better quality stainless steel cutters and trays were done. • 8 high value products have been standardized by conducting numerous trails.
Major Research Achievements:	<ul style="list-style-type: none"> • Procurement of wild berries, fruits and nuts for action research and product development. • Procurement of equipment and machines required for processing and product development. • Physicochemical analysis of procured wild produce. • Several product developments trail from procured wild.
Brief Conclusion - the current progress – for the reporting period ONLY (point wise):	<ul style="list-style-type: none"> • Finalization of 8 high value products including packaging and labeling • Collection of complete ecological and indigenous knowledge related to selected wild produces • Complete technology standardization related to Apricot kernel oil extraction • Designing of natural preservative for semi solid high value products (chutneys, spread and salsa).
Progress Achieved (%):	80%
Remaining work to be done:	<ul style="list-style-type: none"> • Development of rest targeted high value products. • Complete technology transfer related to post harvesting and product development • Development of bankable plan • Compilation and shaping of handbook.

7. Next Reporting Period Plan and Projections (month-wise).

Month	Month wise major activity
Oct 17	<ul style="list-style-type: none"> Better quality of Mehal (500 kg), Walnut (500 kg) Hazelnut (200kg), Chestnut (300kg), Apricot Kernel (2000 kg) and Sea-buckthorn (1000 lit) for product development. Trademark registration - Mountain Beam and HARC Farmer under Class 03, 29, 30 and 32.
Nov 17	<ul style="list-style-type: none"> Completion of second draft of 7 chapters for handbook Designing and procurement of packaging material. Oil bottles, Nectar, Appetizer Vinegar and Concentrate Roasted Nuts. Visit to CITH Srinagar with concern scientist and submission of note of interest. Pre and Post harvesting training on Mehal.
Dec 17	<ul style="list-style-type: none"> Complete development of 12 high value products including designing and packaging.
Jan 18	<ul style="list-style-type: none"> Planning meeting related to designing and shaping of handbook containing chapters of 18 wild produces. Proper aligning of material generated from practical methodology of processing during product development and collection of quality photographs. Research analysis of final product for detection of nutritional value. Technology transfer related to fermented high value non alcoholic beverages (vinegar) and set of extraction unit in CFC Kaleshwar. Trainings to women cooperative (stakeholders) regarding product development.
Feb 18	<ul style="list-style-type: none"> Proper aligning of material generated from practical methodology of processing during product development and collection of quality photographs. Research analysis of final product for detection of nutritional value. Visit of HS Guleria for the installation of unit and meeting with machine dealers for the equipments required for extraction unit. Trainings to women cooperative (stakeholders) regarding product development.
Mar 18	<ul style="list-style-type: none"> Proper aligning of material generated from practical methodology of processing during product development and collection of quality photographs. Research analysis of final product for detection of nutritional value. Product launching and promotion. Development of formulation of high value cosmetic products from INMC.

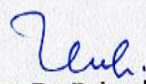
8. Additional information, if any: NA

Attached copy: Detailed Progress Report

Submitted to:

Nodal Officer, NMHS-PMU
National Mission on Himalayan Studies (NMHS)
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Submitted by:  Dr. Rajendra Dobhal

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Dated: 29/01/18

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