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Baseline Survey for Citrus Value Chain Support Activity

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RVWRMP

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RVWRMP

Introduction

This report presents findings for the baseline data collected in September 2020 from members of farmer groups to be supported by the project to develop the citrus value chain enterprise in Chure Rural Municipality (RM), in Kailali District of Nepal.

The Project's livelihoods component has recently moved from expanding and upscaling its home gardening and income generation activities to strengthening agricultural value chains. Five value chains[1] have been selected that show potential for production and market improvement to improve the lives of farm families; one of which is citrus.

Orange production in Chure RM is already well established with a large potential market, but the market is competitive. The Chure farmers are able to produce a quality product, but this requires investment in improved varieties, improved agricultural practices, more investment in storage (including cold storage), grading and packing, with the aim of improving product quality to maintain competitiveness.

About 1,300 farm families have been identified as potential beneficiaries. The project will provide a grant of about 45,600 Euro (5.7 Million NPR) to be matched by a similar amount from the RM, farmer beneficiaries and other stakeholders. A 50% contribution to the overall value chain support must be contributed by Project partners, in line with the Project's guidelines for support to agribusiness.

To comply with the projects' guidelines for support, grant funds cannot be advanced directly to private sector agribusinesses, only through community organisations, farmer groups, or to cooperatives with farmers as shareholders. The 45,600 Euro grant for citrus development represents 13% of the RVWRMP funds allocated to value chain strengthening activities.

The project will provide agricultural extension advice and other inputs in partnership with the Agriculture Section of the Rural Municipality. The modality for all Project support is for activities to be implemented with the Rural Municipality in the project approval and coordinating role to build long-term sustainability. Project funds are disbursed through the RM finance and administration offices. The project guidelines allow project partners to commit funds in cash or in-kind (for example, from farmers as a labour contribution).

Chure Rural Municipality has a high potential for oranges (mandarin and sweet orange), lemon and lime production. Farmers currently produce citrus using traditional farming practices. The oranges have been marketed locally, as well in more distant markets, but not in a systematic way. Local collectors now collect the oranges and sell to traders from Sahajpur, Attaria and Dhangadhi, playing more of a commission agent's role.

Regional traders from Sahajpur, Attaria and Dhanagdhi also directly make contact with farmers and agree to buy farmers' crops before harvest at the fruiting stage of orange production. Consequently, farmers appear to be receiving low prices and profits compared to the margin made by traders[2].

The project will improve the relationship between traders and farmers by fostering transparency and a more cohesive marketing arrangement that informs farmers of market options and prices. Whilst

[1] Vegetables, Citrus, Large Cardamom, Ginger and Chiuri

[2] Farmers sell mandarin at 60 NPR per kilogram to traders; whereas traders sell on the roadside at 100 to 160 NPR per kilogram.

traders may find they have to offer farmers better prices to source fruit, they should be able to access more reliable supplies of better quality. Farmers should benefit from better prices.

The project will work through a managing Cooperative to manage the citrus farming value chain initiative, so membership of the Cooperatives should increase and access to credit for these farmers through the Cooperative should improve.

The low rate of borrowing from formal institutions, and the relative significance of loans and volume of credit from friends/relatives, indicates the need to expand credit penetration from the formal credit institutions.

The project staff, working with the RM Agriculture Section will improve access to quality extension services as well as provide more frequent services. Pest and diseases and a lack of technical knowledge are the main constraints identified by farmers.

The project will advocate modern practices such as pruning trees, grafting, soil testing, applying fertilisers (including trace nutrients), as well as post-harvest technologies such as grading and packing fruit.

Farmers do not have adequate access to quality orange trees, as seedling, from high-tech nurseries. The project will support new high-tech nurseries to supply farmers with improved varieties of trees, in line with the demand to expand the number of trees to be planted.

Project staff report the incidence of Citrus dieback as a problem. This is a multidimensional problem involving pests, diseases, soil fertility, the quality of citrus varieties grown, and the management of citrus trees. It is also a Nepal wide problem and needs to be addressed during the value chain support.

The more organised collection of orange, and other citrus fruits, at a central collection point, possibly managed by an agriculture cooperative, may be a way to achieve more cohesive production and marketing by local farmers, and to improve the linkages between farmers, traders, and markets.

The following interventions were identified by value actors at the initial citrus value chain workshop that was organised by the Rural Municipality and the Project.

Intervention	Intervention Logic
Production and productivity enhancement (Support for scaling up area, etc.)	Increase volume of production with productivity improvements using appropriate modern technologies
Establish modern nurseries to supply good quality saplings	Supplying the saplings to scale up the production area
Technical training, post-harvest training, business planning training, stakeholder linkages, and other capacity building trainings, meetings and workshops	Capacitating actors with strong relationship building for value chain strengthening for sustainability of citrus value chain operation
Provision of irrigation facilities for Citrus cultivation	Maximizing the production and productivity
Establish and strengthen farmers-led institutions to centralize the citrus business management	Maintain the bargaining capacity of producers to improve market prices to growers

Activities, and a tentative budget, was prepared by workshop participants to address the weaknesses of the Citrus Value Chain. This included the formation of a business management committee for collection and marketing centre management, an advisory committee, proposal preparation for approval and funding, selection of a location for the centralised and lateral collection points, drafting of operational guidelines for the management committee, collection of baseline data, business plan preparation, capacity building and other activities.

Summary of Findings

The B/L survey covered 241 households, representing a population of 1,541 people.

Only 54% of households have an affiliation with a cooperative, and of these only 47% are members of an agriculture groups that supports citrus farming.

Almost none of the activities for the groups supporting citrus farming are related to marketing, grading, or post-harvest handling, which will be important components of the project value chain support.

Sixty-eight percent of respondents are close to a vehicle accessible road, which also acts as the current collection point for traders, but 32% are over 30 minutes-walk to the nearest vehicle accessible road; 83% of respondents carry their fruit to the road.

Mandarin oranges are the dominant citrus crop and grown by all farmers. Forty-six percent of households report having more than one hundred orange trees, with some farmers having a much larger number of trees.

Across all 241 respondents, the total volume of citrus sold in the last year was 263 tonnes, or an average of 1.1 tonnes per farmer.

Mandarin oranges attract the highest average selling price (60 NPR per Kg), but anecdotal reports suggest that traders make large margins. Farmers are disadvantaged by lack of negotiating strength due to the current fragmented marketing structures.

The average income from citrus sales is USD 520 per farmer in the last year (59,000 NPR) but the range of incomes from selling citrus is large with some farmers earning over three times this amount from the sale of citrus.

For the 64% of respondents for whom growing crops is the main source of income, the sale of citrus fruit is the main source of income. For most of the other farmers, livestock income is the main source of income.

Average expenditure on citrus farming is low at an average of just 110 USD (12,000 NPR); this reflects the traditional management of trees. There is little expenditure on fertilisers, lime, agricultural chemicals, and other inputs required by modern production methods. The largest item of expenditure is on new trees (26.5% of all expenditure), possibly reflecting the problem of the lack of production in older trees.

Almost two-thirds of respondents report problems selling citrus, mainly due to poor quality and traders not honouring agreements to collect fruit.

Most farmers plan to expand citrus production by planting more trees.

Farmers are aware of and practice a wide range of technologies but modern practices such as pruning trees, grafting, soil testing, applying fertilisers (including trace nutrients) are practiced by far too few farmers.

Most farmers sell their fruit independently to traders, and there is little in the way of coordinated aggregation and sale. This weakens the selling position of farmers.

The main problems identified by farmers are insect pests and diseases (reported by over 95% of respondents).

There is very little in the way of hired labour employed by farmers; any hired labour is mostly part-time, seasonal employment. Across the 241 farm households, there were only the equivalent of 8.2 FTE formal jobs, compared to 311 FTE jobs within farm families (family labour).

Credit penetration is low with only 15% of respondents reporting having any loan, including from relatives and friends. Credit penetration through cooperatives is also low; less credit is advanced through cooperatives as a source of credit than through relatives or friends.

Sixty-eight percent of respondents report having no access to agricultural extension services; for those that do receive services, the services are relative infrequent. There is almost no private sector provided extension services (provided by agrovets or traders).

The main constraints to citrus farming reported by farmers is a lack of technical skills (reported by almost all farmers), followed by lack of mechanisation, not enough money to expand citrus farming (reflecting the poor access to credit), and lack of irrigation water.

Findings of Baseline Survey Citrus Value Chain

The survey included 241 respondents; 72% male and 28% female. Of the respondents 14% were from Janajati ethnic households and 7% from Dalit households (considered to be disadvantaged groups).

The sampled households represented a population of 1,541 people (population 52% male and 48% female).

Only 54% of households reported affiliation to a cooperative. Of those affiliated with a cooperative, only 47% are also members of an agriculture group that supports citrus farming.

The most-commonly affiliated cooperative is the Nigali Agri Cooperative, mentioned by 75 respondents (Table 1).

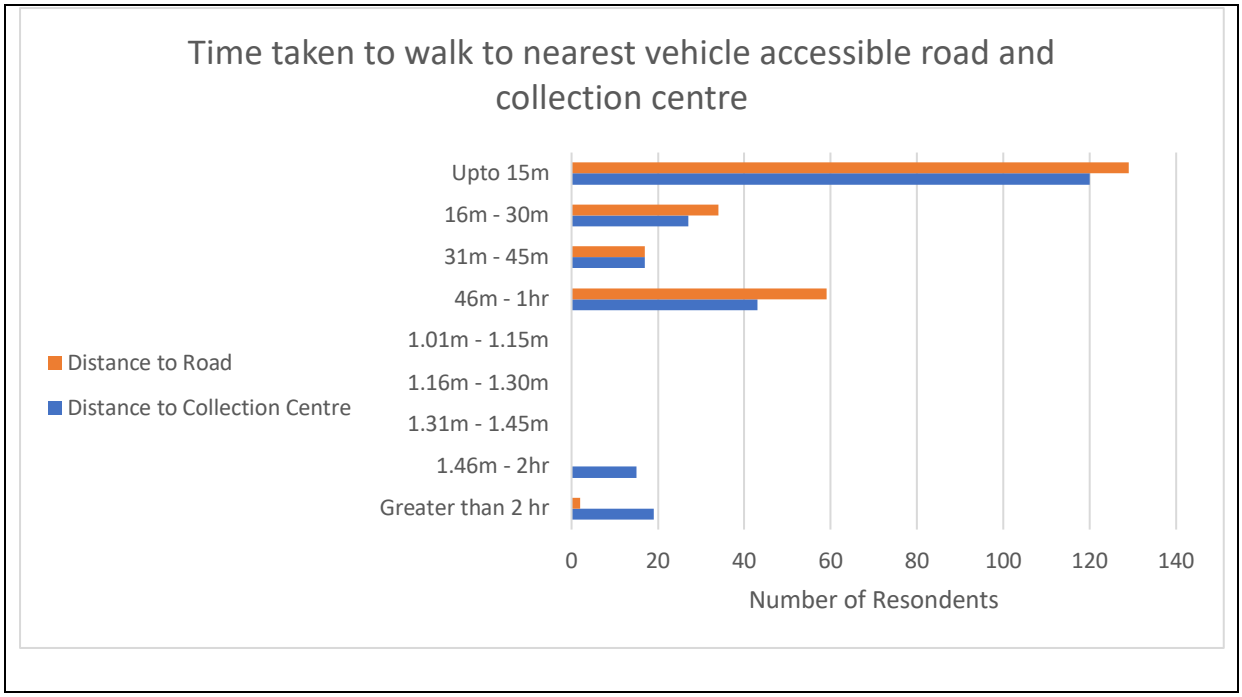
Table 1: Cooperative Membership mentioned by Respondents

Name of Cooperative	No. of Respondents
Nigali Agri Cooperative	75
Swabalambi Mahila Saanaa Kisan cooperative	28
Janakalyan Agri Cooperative	16
Janajyoti Agri Cooperative	5
Sahajpur Agri Cooperative	3
Nawa Janajyoti Cooperative	1
Kisan Multi-purpose cooperative	1
Chhimeki Cooperative	1

Of the 130 households affiliated to a cooperative, and reporting membership of a citrus production group (70 respondents), the most common group activities are production technology and production planning, mentioned by 57 respondents (81%) and 47 respondents (67%) respectively. Only 2 respondents mentioned citrus collection as an activity, and none of the respondents mentioned marketing, grading or post-harvest handling activities as activities supported by the groups.

Sixty-eight percent of respondents are within a 30-minute walk to the nearest vehicle accessible road (Figure 1); 31% are between 30 minutes and one hour's walk from a road, and 2 respondents (1%) reported being more than 2 hours walk from a vehicle accessible road.

Figure 1: Time Taken to Walk to a Vehicle Accessible Road and Collection Centre



For most respondents the time it takes to walk to the nearest road and to the nearest collection centre is similar[3] , with the exception of 34 respondents (14%) who reported being either over one hour and 45 minutes, or more than two hours from a collection centre.

Most respondents carry their citrus fruit to the nearest vehicle accessible road (83%)[4], 7% use a motorcycle, and 10% use another form transport[5].

Most farmers grow more than one type of citrus fruit; however, 22% (52 respondents) only grow Mandarin. Mandarin are the most-commonly grown fruit, followed by limes, lemons, and sweet oranges (Table 2).

Based on the total number of trees and the average number of trees per farmer, mandarin oranges are the dominant crop. By contrast, respondents have very few lime or lemon trees, and there are very few sweet orange trees (Table 2).

Table 2: Number of respondents growing various type of citrus fruits

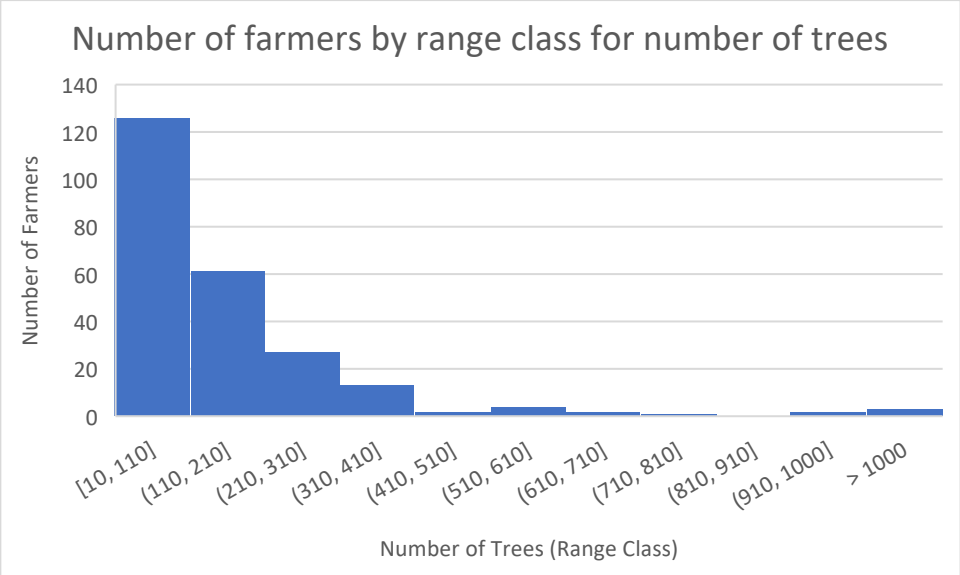
	No. of Respondents	% of Respondents	Total No. of Trees	Avg. No. Trees per Respondent with Trees
Sweet Oranges *(Junar or Mausami)*	85	35%	377	4
Mandarin Oranges *(Suntala)*	241	100%	32,729	136
Lemons	170	71%	2,480	15
Limes	180	75%	2,909	16
Others	1	0%	-	-

[3] For most respondents, the collection point is the nearest road with traders collecting fruit from the roadside close to citrus orchards.
[4] Most use a cane basket or "Doko" in Nepali to carry loads on the back.
[5] Possibly a tractor, but not clear from the survey responses.

No one grows citrus on rented land; this is probably because fruit trees are a long-term crop, so long-term security of ownership requires all fruit trees to be grown on land owned by the farmers.

Forty six percent (46%) of farm households report having less than one hundred citrus fruit trees. 42% have between 200 and 300 trees; only 12% of households report having over 300 trees.

Figure 2



Tree spacing

Most farmers plant fruit trees with an irregular spacing (not as an orchard model) which is consistent with the common agricultural practices of cultivation of mixed crops under terraced agriculture. However, 5% report planting trees in blocks with a regular spacing, this may indicate preference for orchard planting where feasible[6].

Only 41 respondents (17%) report purchasing new varieties of fruit trees from high-tech nurseries. For those that do buy new varieties of trees, the average expenditure each year is 3,770 NPR (about 33 USD) for this item of expenditure.

Production and Income

Reflecting the large number of mandarin orange trees, the sale of mandarin comprises most of the income from selling citrus. By contrast, the income from the sale of other citrus fruits is relatively low.

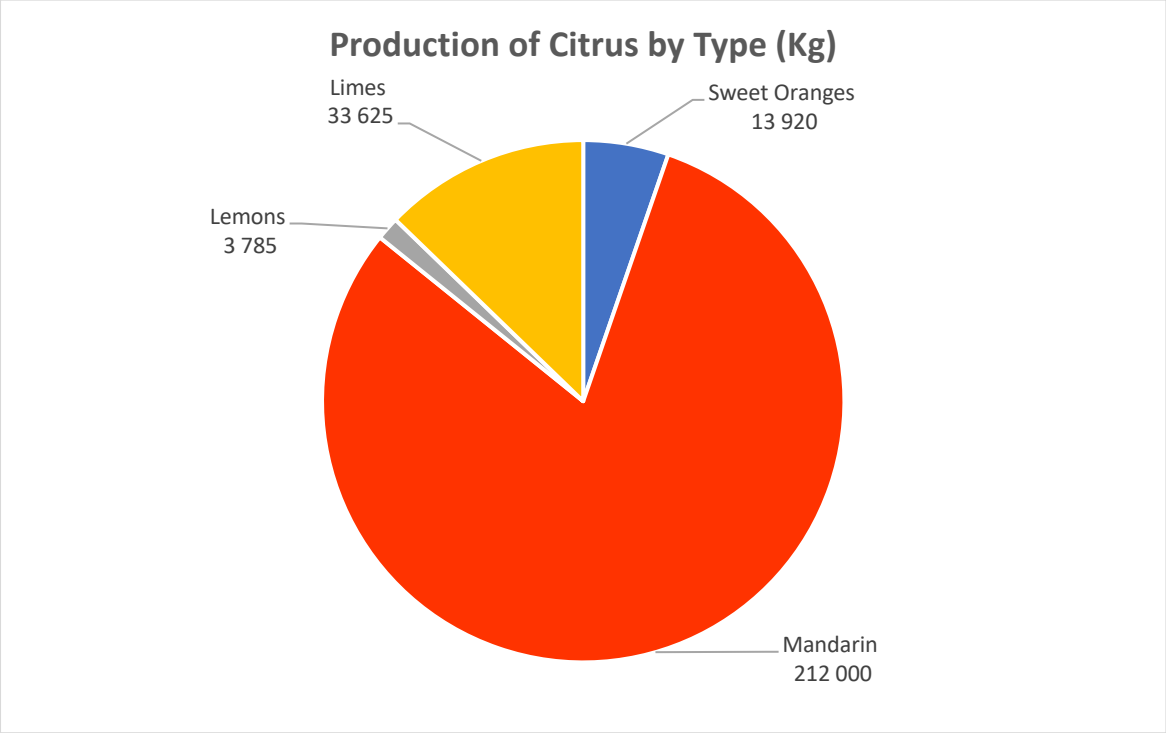
Across all respondents, the total volume of citrus sold in the last year was 263 tonnes, or an average of 1.1 tonnes per farmer. Most farmers grow more than one type of citrus fruit, with 34% growing

[6] In Nepal, most of the citrus orchards are either mismanaged or neglected. Absence of management practices and poor orchard hygiene are widespread in citrus orchards. Excessive inter-cropping with unsuitable crops such as maize, millet, potato, mustard etc., and planting trees on the edges of the bench terraces are common practices. [Training Manual for Combating Citrus Decline Problem in Nepal. FAO Nepal, July 2011]

sweet oranges, mandarins, tangerines, lemons, and limes. Only 22 percent of respondents grow only mandarin oranges.

Based on the baseline survey canvassing data from 241 households, but the total number of households in the project value chain catchment growing citrus a commercial scale (more than 1 Ropani in citrus) being estimated at 1,300 households, it may be estimated that total production in the project value chain catchment area is around 1,400 MT.

Figure 3:



The average production, for those selling the fruit, is 995 Kg for mandarin oranges, 494 Kg for limes, 290 Kg sweet oranges, and 81 Kg for lemons. Production per farmers has a large range from no production for farmers with young trees (or for those who only buy and sell fruit), to over 10 tonnes (one farmer)[7].

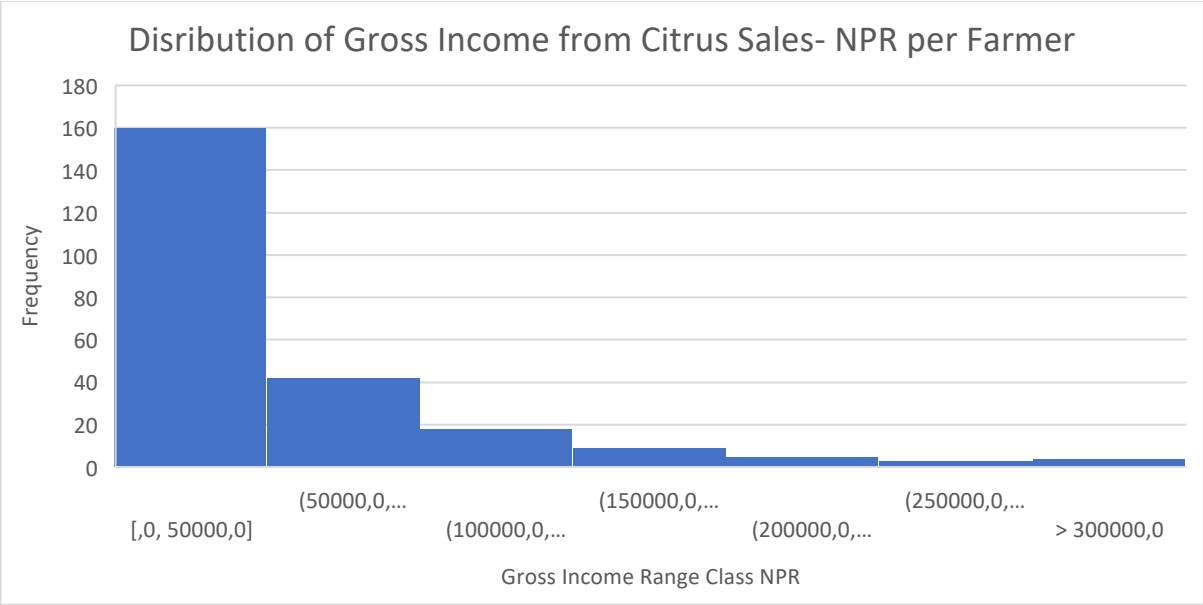
Mandarin oranges have the highest average selling price at 60 NPR per Kg, followed by lemons at 50 NPR per Kg, sweet oranges (Tangerines) 22 NPR, and limes 12 NPR per Kg.

Total income across the 241 respondents was 14.2 million NPR, an average of 59,240 NPR per household (about 520 USD). Reflecting the range of production volumes, incomes range from just 2,000 NPR to a maximum of 767,000 NPR (about USD 6,730).

Based on the same ratio of households in the project area to the number covered by the survey, total income from citrus sales in the project's value chain area might be around 76 million NPR (USD 670,000).

[7] One farmer reports sale of over ten tonnes, 7 farmers over 5 tonnes (across all citrus fruits).

Figure 4:



Two thirds of farmers are in the lowest income range class of 50,000 NPR or less (USD 440) from the sale of citrus. Only 8.7 percent have a gross income from citrus sales of over 150,000 NPR (USD 1,300). Seventy six percent of respondents have a gross income from the sales of citrus of less than 11,400 NPR (about USD 100).

Sources of Income

For 64% of respondents, farming (or growing crops) is the main source of income. For 90% of those whose main source of income is farming, citrus farming is the main income source.

86 respondents (35%) reported that “growing crops” was not their main source of income. For 90% of these farmers, livestock farming is the main income source.

Expenditure on Citrus Farming

The average of total expenditure on citrus farming was 12,580 NPR in the last farming year (USD 110) with a range from 100 NPR to 95,000 NPR. Table 3 shows the average expenditure by expenditure item (for those that report expenditure on these items).

Table 3: Expenditure by Type of Expenditure for Respondents Reporting Expenditure

Expenditure Item	No. Reporting Expenditure	% Reporting Expenditure	Average Expenditure /1	Total Expenditure (N=241)	% of Total Expenditure
New Trees	215	89%	3,646	765,700	26.5%
Cultivation	122	51%	2,738	334,000	11.6%
Fertilizer	117	49%	2,322	262,400	9.1%
Lime	94	39%	1,570	147,600	5.1%
Ag chemicals	144	60%	1,680	240,250	8.3%
Animal manure	144	60%	3,201	461,000	16.0%
Packing materials/bags	90	37%	1,697	152,700	5.3%
Labour hire	93	39%	2,091	194,500	6.7%
Irrigation	133	55%	2,465	318,000	11.0%
Others	2	1%	6,500	13,000	0.4%
Total Expenditure			**12,579**	**2,889,150**	**100.0%**

1/ Note that the average of total expenditure is not the sum of the averages because the average expenditures by item are only for those reporting that item of expenditure.

The main expenditure items are new trees (26% of total expenditure, with 89% reporting expenditure on new trees), followed by animal manure (16% of total expenditure), cultivation (11.6%) and irrigation (11%).

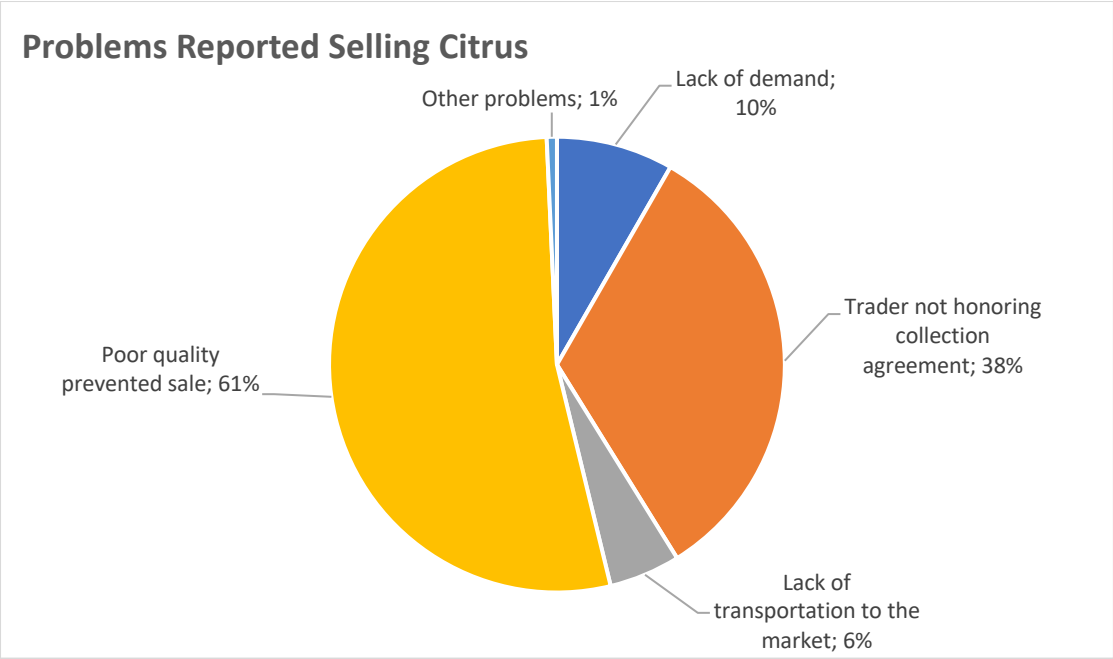
Only 49% of respondents reported expenditure on fertiliser; 60% reported expenditure on agricultural chemicals for citrus farming. These items made up 9.1% and 8.3% of total expenditure overall. Fertiliser expenditure increases to 14.2% of total expenditure if lime is included in the fertiliser expenditure category.

Very few respondents report spending on packing materials (37% of respondents) and only 39% report hiring labour.

Problems Selling Citrus

When asked if they faced any problems selling their citrus fruits in the last year, 61% of respondents report that they had problems selling due to the poor quality of their fruit; 38% report that traders did not honour agreements to collect fruit. Only 10% report that there was a lack of demand for citrus, and only 6% mentioned a problem with transport to market.

Figure 5:



Expansion of Citrus Enterprise

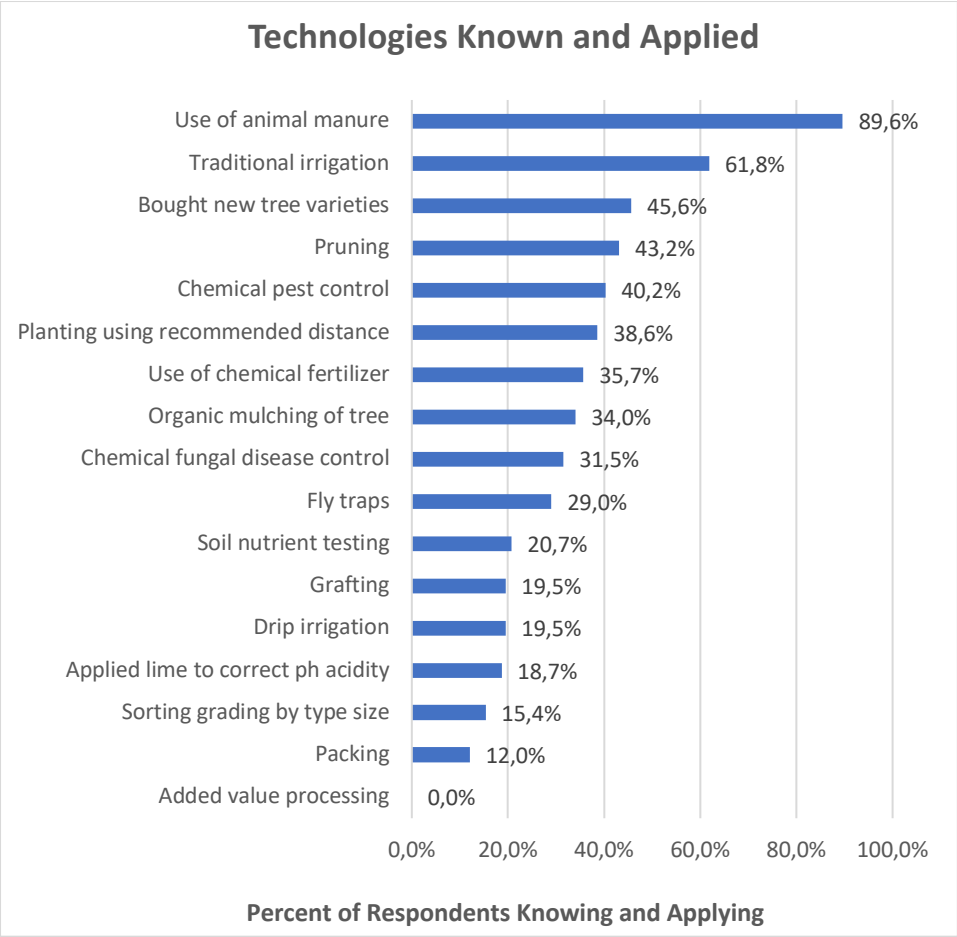
When asked if they plan to expand their citrus enterprise, 93% of respondents plan to plant more trees with the average number of additional trees planned to be planted being 131 per respondent household.

Across the entire sample of respondents, the total number of additional trees planned to be planted in the next two years is 29,320 trees, which at a yield of 25 Kg per tree is the equivalent of 740 MT of citrus fruit, or almost three times the current reported production reported by the respondents in the survey (although this would take several years to achieve due to a lag of about five years between planting trees and trees bearing commercial volumes of fruit).

Use of Technology

Respondents were asked about what type of citrus growing technology they know about and apply in their current farming practices (Figure 6).

Figure 6:



There are no respondents using any type of citrus processing technology, and only 12 percent mentioned packing fruit. Sorting and grading are only practiced by 15.4% of respondents. By contrast 89.6% use animal manure, 35.7% use chemical fertilisers, and only 43.2% prune their trees. Only 19.5% know and practice grafting.

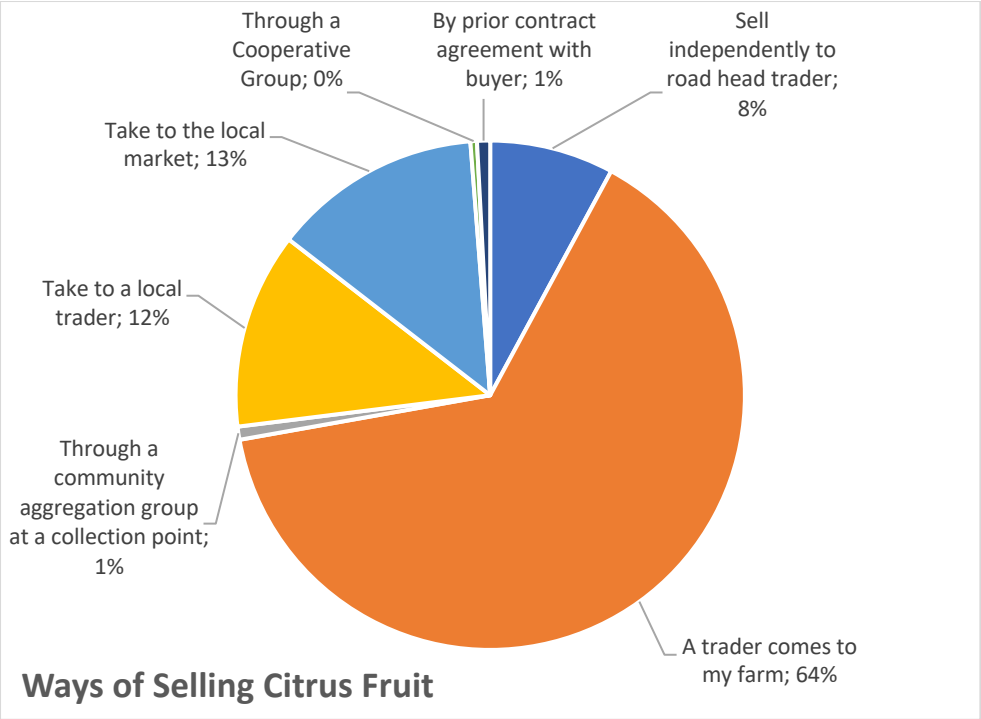
These figures reflect a low use of technologies, such as pruning, grafting, use of chemical fertilisers and lime, soil testing, that are fundamental to the production of high-quality citrus fruit and for improving crop production. The figure also reflects the problems reported by respondents for selling fruit (e.g., poor quality and lack of demand).

Crop pests and diseases are reported to be a major problem, yet only 40% use chemical pest control methods and only 29% fly traps.

Sale of Produce

The most common way of selling citrus is through a trader than collects fruit from the farm (64% of respondents). 13% take fruit to the local market to sell and another 12 percent take fruit to a local buyer. 8% sell independently through a road-head trader. No respondents reported selling through a cooperative group, a method of selling that will be promoted by the project through advocating cooperative membership and aggregated selling. Currently only one percent of respondents (2 farmers) reported selling through prior sales agreement with a buyer (Figure 7).

Figure 7



Main Problems and Constraints of Citrus Farming

Respondents were asked to identify the main constraints to growing citrus. They were allowed to name more than one constraint and were able to identify and describe an "other" constraint, if relevant.

Almost all respondents identified citrus insect pests and citrus diseases as a major constraint for growing citrus fruit (99% and 95% of respondents respectively).

Table 4: Major Citrus farming Constraints Identified by Respondents

Identified Constraint	No. Respondents	% of Respondents
Insect pests	239	99%
Citrus disease	228	95%
Storage problem	147	61%
No cold storage facility	154	64%
No collection centres	167	69%
Lack of processing option	140	58%
Others	0	0%

The other constraints of lack of storage, no availability of cold storage, no collection centres, were identified as constraint by about the same number of respondents (about two thirds of farmers). Lack of processing was identified by 58% of respondents.

Employment of Hired and family Labour

Hired Labour

Only one respondent employed labour on a full-time basis, this respondent employed 5 staff full time for 6 months of the year.

Only five respondents (2%) employ part-time staff (less than 20 Hrs a week) with the average being 7 staff but with a range from 1 to 20 staff. The average period of employment for part-time staff is 2 months of the year, but with a range from 1 to 4 months of part-time work.

Across the entire sample of 241 households there were only five full time jobs reported for hired labour and 34 part-time jobs.

Family Labour

154 households (64%) reported that citrus farming employed family members on a full-time basis (over 20 hrs a week) with citrus farming employing an average of 2.56 family members full-time (range 1 to 7). On average citrus farming required family members working full-time to work for 8 months of the year (range 3 to 12 months).

87 households (36%) reported that citrus farming employed family members part-time with citrus farming employing an average of 1.89 family members part-time (range 1 to 5). On average family members working part-time in citrus farming worked for 3.5 months (range 1 to 12 months).

Value of Hired Labour

Based on a notional wage rate or 450 NPR per day, hired labour only created 337,500 NPR in income for full time employment (across six months of the year) about USD 3,000 for the sample of 241 households, plus another 795,600 NPR in income from part-time employment (across about 2 months of the year on average) or about another USD 7,000. A total of about USD 10,000 for hired labour employment for the sample of 241 households (both full-time and part-time employment).

By contrast, the value of on-farm employment within the farm households is much greater than any hired labour employed on farms.

For the sample of 241 respondents, citrus farming creates about 8.2 FTE formal jobs. By contrast, employment on farms, within the family, creates around 311 FTE jobs within the farm families (non-hired labour).

Loans

Only 15 percent of respondents reported that they currently have a loan (37 of 241 respondents).

These 37 respondents reported having 44 loans with five respondents having more than one loan.

The most common source of credit is the cooperative (17 loans), followed by loans from friends or relatives (16 loans). Only 2 loans were reported to be from traders/buyers, and only one loan was reported to be from a bank (Table 5). No one reported having a loan from an AgVet shop. Whilst the number of loans reported were about the same from Cooperatives and from Friends/Relatives,

almost half the value of all loans was from friends/relatives compared to only 24% from Cooperatives, indicating a low rate of market penetration for formal lending.

Table 5: Number and Amount of Loans by Source

Source of Credit	Amount of Credit (NPR)	% of Total Credit	Number of Loans	% of HHs with Loans (n = 241)
Cooperative	1,055,000	24%	17	7.1%
Bank	150,000	3%	1	0.4%
Relative or friend	2,276,000	51%	16	6.6%
Trader / Buyer	125,000	3%	2	0.8%
Ag Shop	-	0%	0	0.0%
Other	820,000	19%	8	3.3%
Total	**4,426,000**	**100%**	**44**	15% /1

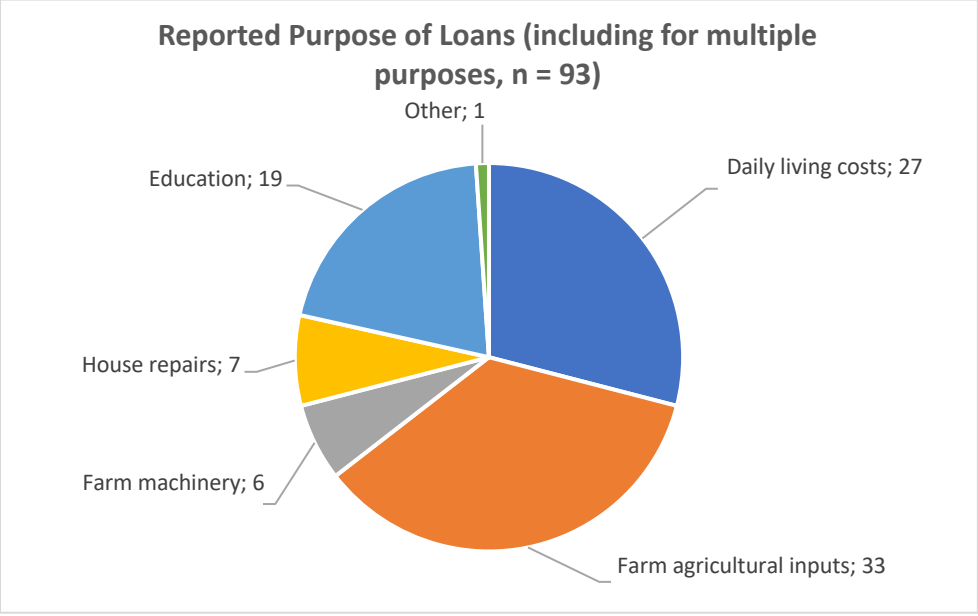
1/ Whilst only 15% of HHs (37 HHs) reported having a loan, some households had more than one loan.

The average interest rate charged by Cooperatives was 14% per annum, and from friends/relatives 16%. Traders/Buyers charged an average of 24% interest. There was only one bank loan reported with an interest rate of 16%. Whilst credit from traders/buyers is at a higher interest rate, they act as a minor source pf credit accounting for only 3% of total credit.

The low rate of borrowing from formal institutions, and the high number of loans and volume of credit from friends/relatives, indicates the need to expand credit penetration from the formal credit institutions.

The main purpose of loans was to purchase farm inputs (35%) and to meet daily living expenses (29%). 20% of loans were reported to be for the purpose of meeting education expenses (Figure 8). Of the 37 loans reported, 27 were for multiple purposes.

Figure 8



Over the entire sample of 241 households (15% of HHs reported having a loan) only 14% of households reported borrowing for purchasing farm inputs, 11% for daily living costs, 8% to meet education expenses, 3% for house repairs, and 2% to purchase farm machinery.

Of the 37 loans reported, 30 were reported to be for citrus fruit-farming related expenses, with an average borrowing for citrus farming related expenses of 35,000 NPR (USD 307), with a range from 3,500 NPR (USD 30) to 100,000 NPR (USD 880).

Access to Agricultural Extension Services

Sixty-eight percent of respondents reported that they do not have access to agricultural extension services, with only 32% recipients of extension of services. All of those receiving extension services mentioned RVWRMP as a provider of services. Also mentioned as service providers, in partnership with RVWRMP, were the Rural Municipality Agriculture Section and the Agriculture Knowledge Centre (formerly DADO).

There is minimal provision of extension services by the private sector traders and by AgroVets. The provision of technical services by cooperatives is also very low. This situation should be expected to change as a result of the RVWRMP value chain interventions.

When asked to rate the effectiveness of extension provision, the perception of the quality of extension services was about the same for the project provided services and for the rural municipality services, with about 15% rating services as excellent and over two thirds ranking services 4/5 or 5/5.

Table 6: Respondents Receiving Extension Services by Provider of Services, and Ranking of Quality of Service

			Ranking of Services (Score out of 5)		
			3	**4**	**5**
Provider of Extension Services	**% of Respondents**	**No. of Respondents**	**Number of Responses**		
AKC (formerly DADO)	4%	10	7	3	0
RVWRMP	32%	78	26	40	12
Rural Municipality Agriculture Section	10%	25	9	13	3
AgroVet	2%	5	2	3	0
Trader	2%	5	3	2	0
NGOs	0%	0	0	0	0
Cooperative	2%	6	1	5	0

When the one third of respondents that did receive extensions services, were asked how often they received services, 67% percent received services weekly, 17% monthly, and 17% just a few times a year. Those that do receive services tend to receive frequent services (21% of all respondents) but the rest either receive services infrequently or not at all. This suggests that services need to be targeted to more farmers and more effort should be made to target farmers that might be in less accessible locations.

Constraints to Citrus Farming

Respondents were asked to identify the main constraints to citrus farming, identifying three constraints and then ranking these identified constraints.

100% of respondents identified a lack of technical skills in citrus farming as a constraint. 66 percent or respondents mentioned a lack of mechanisation, and 50% mentioned insufficient irrigation water. 51% or respondents also mentioned a lack of money to expand citrus growing.

When prioritising the constraints for citrus farming, an astonishingly high number of respondents (218 or 90% of respondents) mentioned a lack of technical skills as their most limiting constraint.

Table 7: Main Constraints to Citrus Farming as Identified by Respondents

Constraint	No. Respondents	% of Respondents	Priority marking		
			1	2	3
Lack of technical citrus growing skill	240	**99.6%**	**218**	18	4
Not enough money to expand citrus growing	123	**51.0%**	19	94	10
Not enough land to expand citrus growing	13	5.4%	2	7	4
Insufficient family labour	2	0.8%			2
Lack of mechanisation	160	**66.4%**	20	65	75
Lack of irrigation and water	121	**50.2%**	26	17	78
Market prices are too low for citrus	4	1.7%		2	2
Lack of information about market prices	46	**19.1%**		14	32
Lack of trust in the traders who buy my citrus	6	2.5%		1	5