

Revised Application Documentation: Version 4 /25 May, 2015

QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

Agriculture Skill Council of India

304-305 Bestech Chambers,
Block B, Sushant Lok 1,
Gurgaon-122002
P: 0124-4288322

Name and contact details of individual dealing with the submission

Name: Ms Priyanka Prakash

Position in the organisation: Manager

Address if different from above

Tel number(s): 0124-4288322

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List of documents submitted in support of the Qualifications File

1. Qualifications Pack
2. Industry Engagement Certificate
3. Occupational Map

3. QUALIFICATION FILE SUMMARY

Qualification Title	Bamboo Grower		
Body/bodies which will assess candidates	Agriculture Skill Council of India (ASCI)		
Body/bodies which will award the certificate for the qualification.	Agriculture Skill Council of India (ASCI)		
Body which will accredit providers to offer the qualification.	Agriculture Skill Council of India (ASCI)		
Occupation(s) to which the qualification gives access	Agro Forestry Management		
Proposed level of the qualification in the NSQF.	4		
Anticipated volume of training/learning required to complete the qualification.	200		
Entry requirements / recommendations.	No entry barrier.		
Progression from the qualification.	Quality Seed Grower, Bamboo Plantation supervisor, Bamboo Plantation Manager		
Planned arrangements for RPL.	RPL assessment will be as per normal ASCI assessment process.		
Formal structure of the qualification			
Title of unit or other component (include any identification code used)	Mandatory/Optional	Estimated size (learning hours)	Level
1. AGR/N6101 Prepare and manage nursery in bamboo growing	Mandatory	20	4
2. AGR/N6102 Prepare planting material for Bamboo cultivation	Mandatory	22	
3. AGR/N6103 Prepare land and plant the planting material	Mandatory	20	
4. AGR/N6104 Manage soil nutrient in bamboo growing	Mandatory	25	
5. AGR/N6105 Weed management in bamboo growing	Mandatory	20	
6. AGR/N6106 Irrigation management in bamboo growing	Mandatory	18	
7. AGR/N6107 Integrated pests and diseases management in bamboo growing	Mandatory	25	
8. AGR/N6108 harvest and post harvest management in bamboo growing	Mandatory	25	
9. AGR/ N9901 Basic farm management	Mandatory	15	
10. AGR/N9902 Assimilating market information	Mandatory	10	

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.

Give details of the document here:

Qualification of Bamboo Grower attached as Annexure 1

SECTION 1

ASSESSMENT

Name of assessment body:

If there will be more than one assessment body for this qualification, give details.

ASCI affiliated assessment bodies.

1. Aspiring Minds Pvt Ltd
2. Anant Learning & Development Pvt Ltd
3. Assess People Services India Pvt Ltd
4. Trendsetters Skill Assessors Pvt Ltd

More Assessment Agencies are being empanelled to cover wider geographical area

Will the assessment body be responsible for RPL assessment?

Yes

Give details of how RPL assessment for the qualification will be carried out and quality assured.

RPL will be based on the same approved Qualification Pack and Assessment Criteria mentioned in the Qualification Pack and will be carried out as per normal ASCI assessment process.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:

A robust technology enabled assessment methodology has been designed keeping in mind the geographical/Physical constraints and target segment which assess a trainee's knowledge and skill set through three methods:

- a. An offline Tablet based test through the use of Multiple Choice Text and Picture based questions in vernacular languages
- b. Actual demonstration on the field
- c. Viva

ASCI's assessment strategy:

- Question sets are developed as per the weight age of each NOS of the Qualification Pack.
- Assessment criteria for each Qualification Pack developed, in which each Performance criteria (PC) assigned marks based on NOS
- Question Bank is developed to assess the theoretical and practical knowledge. To ensure the quality, each trainees get different set of question
- Empanelment of subject matter expert as assessor primarily from the Industry to assess trainee specifically on practical skills as per Industry demands
- Assessments are preferably conducted on tablets or pen or papers in regional languages according to the requirement.
- Questions are uploaded in the tablets only on the day of assessment
- It is ensured that TP/trainer are not present during assessment

Please attach any documents giving further information about assessment and/or RPL.

Give details of the document(s) here:

Assessment criteria is available at the end of the Qualification Pack (attachment sl.no.1)

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role: Bamboo Grower

Qualification Pack: AGR/Q6101

Sector Skill Council: Agriculture Skill Council of India

Guidelines for Assessment:

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on these criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 40 % in each NOS & 60% in aggregate
6. The marks are allocated PC wise; however, every NOS will carry a weight age in the total marks allocated to the specific QP.

Assessable Outcome	Assessment Criteria	Total Marks	Out Of	Marks Allocation	
				Theory	Skills Practical
1. AGR/N6101 Prepare and manage nursery in bamboo growing	PC1. ensure nursery site to be near plantation areas with accessibility to proper transportation, communication and operations	75	2	1	1
	PC2. ensure appropriate infrastructure and equipments availability for nursery preparation		2	1	1
	PC3. plough the soil, level the land and ensure appropriate soil conditions		3	1	1
	PC4. ensure the nursery to have a good balance of sunlight and shade		2	1	1
	PC5. ensure appropriate size and layout for the nursery		2	1	1
	PC6. make irrigation and drainage channels		3	1	2
	PC7. dug trenches and gutters to prevent water from flooding the container field		3	1	2
	PC8. sow the seed at correct depth and appropriate spacing		5	2	3

	PC9. water the seedling at appropriate time with appropriate method		5	2	3
	PC10. ensure a permanent supply of water to the nursery site		3	3	0
	PC11. apply manures and fertilizers as necessary and recommended		9	2	7
	PC12. take up weed control		7	3	4
	PC13. net the nursery bed		4	2	2
	PC14. control pests and diseases		10	5	5
	PC15. engage in formative pruning in early stages of the plant time for the plant		2	2	0
	PC16. prune at the correct location in plant		5	2	3
	PC17. follow the accepted method of pruning		3	3	0
	PC18. dress the locations after pruning with appropriate chemicals		4	2	2
	PC19. maintain the land clean after the pruning		1	1	1
	TOTAL		75	36	39
2. AGR/N6102 Prepare planting material for Bamboo cultivation	PC1. identify the agro-climatic conditions, climate, soil type and required yield for which cultivation is taken up	50	2	1	1
	PC2. list the varieties that are suitable to the zone		2	1	1
	PC3. select economically attractive variety which will give good yield and are resistant to pests and diseases		5	3	2
	PC4. identify various cost-effective and quality vendors/ suppliers (including government nurseries/universities) of the planting material, if the farmer is not preparing the planting material		3	2	1
	PC5. ascertain the quality of planting material from each source in terms of 'free from pests and diseases', 'survival rate' etc.		3	2	1
	PC6. ascertain the prevailing market price for the planting material		2	1	1
	PC7. procure the appropriate planting material		1	0	1
	PC8. ascertain the right storage time for planting material based on the practice adopted		3	1	2
	PC9. store the planting material in a convenient and shaded part of plantation site		2	1	2
	PC10. ascertain the prevalent pests and diseases of bamboo in a given agro-climatic zone		4	2	2
	PC11. ascertain the correct pesticides, fungicides and other appropriate chemicals to be used for the treatment		7	3	4
	PC12. treat the planting material appropriately as per the dosage recommended by the State Agriculture University/ Department or as prescribed by the pesticide manufacturer		10	5	5
	PC13. follow the safety precautions as per the instruction manual that comes with the pesticide		2	1	1

	PC14. ensure availability of all the necessary first aids as suggested in the safety measures		2	1	1
	PC15. effectively use all the necessary safety material and follow all the preventive measures to avoid any injury during usage/application of pesticide		2	1	1
	TOTAL		50	25	25
3. AGR/N6103 Prepare land and plant the planting material	PC1. plough the land as deep as possible appropriately for cultivation	50	1	0	1
	PC2. create proper drainage systems		1	0	1
	PC3. select the appropriate field layout based on the variety, yield expected and its arrangement		2	1	1
	PC4. place markers at the site at appropriate distances		1	0	1
	PC5. prepare bunds and trenches sufficiently in advance to stabilize them before planting is taken up		1	0	1
	PC6. identify pit size to ensure desired spacing and depths		1	1	0
	PC7. ensure the pit to be deep enough to ensure the roots of the plants not to curl up		1	1	0
	PC8. turn the soil in the pit thoroughly, a few days before planting		1	0	1
	PC9. mix the soil in the pit with adequate quantity of FYM or vermicompost, neemcake, urea, super phosphate, murite of potash, and others as required		4	2	2
	PC10. remove the weeds from the pit		1	0	1
	PC11. level the pit with mixed and enriched soil		1	0	1
	PC12. irrigate the pits at right amounts and allow dryness		2	1	1
	PC13. use appropriate land preparation equipments like ploughs, disc harrows, etc		1	0	1
	PC14. decide on the planting density based on the size and dimensions of the species to be planted		1	1	0
	PC15. ensure appropriate soil and climatic condition		1	1	0
	PC16. clean and plough the land to get appropriate tilth		2	1	1
	PC17. prepare the land with ridges and furrows		2	1	1
	PC18. harden the plants at the nursery before transporting them to the field		2	1	1
	PC19. ensure plants with well developed roots and rhizomes are selected		1	1	0
	PC20. trim down the long stems of the plants at the nursery to appropriate height before transporting		1	0	1
	PC21. handle the plants carefully when transplanting to the field		1	1	0
	PC22. water the plants before transport		1	1	0
	PC23. transplant the plants at appropriate time		2	1	1
	PC24. transplant the plants at appropriate stage		2	1	1

	PC25. ensure appropriate spacing and distance while planting		1	1	0
	PC26. intercrop with vegetable and cash crops to keep soil and the plant cool and for growing faster		1	1	0
	PC27. plant at early hours of morning		1	1	0
	PC28. maintain the plants in a shaded area and protect from direct sunlight		1	1	0
	PC29. ensure the plantation is not too far apart leading to suffer from canopy exposure, loss of soil moisture through evaporation and competition from weeds and other vegetation		1	1	0
	PC30. ensure plantation is also not too closely denser leading to the plants competing for proper light, space, soil moisture and nutrients		1	1	0
	PC31. irrigate the plants				
	depending on the climatic conditions		2	1	1
	PC32. apply the required and recommended fertilizers		4	2	2
	PC33. replace the dead seedlings and cuttings which do not adapt and survive to the new environment		1	0	1
	PC34. remove unwanted, old and rotting clumps, without allowing many branches unattended to grow up, to prevent clump congestion and to promote healthy growth		1	0	1
	PC35. thin the clumps to provide space for new shoots to emerge		1	0	1
	PC36. perform pruning at appropriate periods, season and month to reduce clump congestion		1	0	1
	TOTAL		50	25	25
4. AGR/N6104 Manage soil nutrient in bamboo growing	PC1. understand the basic macro & micro nutrients with their functions	75	9	4	5
	PC2. take sample soil and undertake soil testing to determine its nutrient content at authorized testing laboratories for analysis		10	5	5
	PC3. interpret the soil analysis report from the lab		8	4	4
	PC4. collect the recommended organic and inorganic fertilizer dosage and macro nutrients from Agriculture Department based on the soil analysis report		20	10	10
	PC5. apply suitable farm yard manure and fertilizers		10	5	5
	PC6. apply necessary fertilizers and manures in prepared soil in right proportion		5	2	3
	PC7. apply at the appropriate distance, dosage and apt time in the prepared field		8	4	4
	PC8. maintain the right pH value in the soil		5	3	2
	TOTAL		75	37	38
5. AGR/N6105 Weed management	PC1. perform weeding periodically	25	2	1	1
	PC2. ensure that weeding is done appropriately without leaving any parts (root system) of weeds		1	1	0

in bamboo growing	PC3. identify the types of weed in the plant		3	1	2
	PC4. regulate the chemical application during soil preparation so that land does not become agreeable to weeds		3	2	1
	PC5. apply correct dosage of herbicide and other chemicals at appropriate time for controlling and managing weeds		5	2	3
	PC6. undertake manual weeding at appropriate time and intervals		4	2	2
	PC7. use mechanical weeding equipments like hoes, where applicable		4	2	2
	PC8. incorporate mulching to control weeds in the plant and keep the soil moist		2	1	1
	PC9. dispose the removed weeds properly		1	0	1
	TOTAL		25	12	13
6. AGR/N6106 Irrigation management in bamboo growing	PC1. ascertain the right amount of water required based on the needs, soil moisture and climate of the place of cultivation at the right time	25	9	5	4
	PC2. use appropriate irrigation systems wherever possible and applicable		4	2	2
	PC3. ensure periodical irrigation		3	1	2
	PC4. avoid excessive watering		4	2	2
	PC5. effectively use the irrigation system in place (in case of micro irrigation)		5	3	2
	TOTAL		25	13	12
7. AGR/N6107 Integrated pests and diseases management in bamboo growing	PC1. understand the common pests in bamboo cultivation	75	5	2	3
	PC2. identify the stage and location of the pest incidence		7	4	3
	PC3. diagnose symptoms and extent of damage		8	4	4
	PC4. adopt direct pest control methods		10	5	5
	PC5. use appropriate chemicals in right quantities as recommended		15	9	6
	PC6. identify the type of disease, according to stage and location where the disease would occur		10	5	5
	PC7. analyze the symptoms and take the necessary prophylactic and curative measures		15	8	7
	PC8. use appropriate and suitable pest and disease resistant varieties		5	2	3
	TOTAL		75	39	36
8. AGR/N6108 harvest and post harvest management in bamboo growing	PC1. harvest the crop at the right time	50	4	2	2
	PC2. ensure selective and systematic cutting of mature clumps		3	1	2
	PC3. harvest the culms from the centre		3	2	1
	PC4. plan the cutting operation carefully and use sharp tools, which is advised to be disinfected before harvest		4	2	2
	PC5. do not cut young culms unless congestion		1	1	0

	PC6. do not harvest culms during rainy season		1	1	0
	PC7. transport the harvested bamboo to the storage site		1	0	1
	PC8. harvest the crop at the appropriate stage		2	1	1
	PC9. harvest the crop in right time of the day		1	0	1
	PC10. use the appropriate type of harvest – manual or mechanized –depending on the type of planting material		2	1	1
	PC11. undertake drying and seasoning of bamboo culms		5	2	3
	PC12. undertake packing of the bamboo culms		3	1	2
	PC13. maintain ideal storage condition		7	3	4
	PC14. manage the storage from pests and termites		10	5	5
	PC15. identify the right market for sale of produce		1	1	0
	PC16. analyze the right time for sale considering the periodical demand for the produce		1	1	0
	PC17. coordinate and negotiate with procurement assistant of the buyer for best price		1	1	0
	TOTAL		50	25	25
9. AGR/N9901 Basic farm management	PC1. choose the crop based on agro-climatic condition of the region	25	2	1	1
	PC2. take sample of the soil for testing		3	1	2
	PC3. perform intercropping with suitable and recommended crops (as per the main crop cultivated)		1	0	1
	PC4. perform crop rotation with suitable crops		1	0	1
	PC5. interact with agriculture / extension expert for crop planning		1	1	0
	PC6. choose crop based on the economic advantage		1	1	0
	PC7. maintain crop production activity record		1	0	1
	PC8. maintain crop calendars		3	2	1
	PC9. maintain calendars of weed		1	1	0
	PC10. maintain insect and pest calendar		2	1	1
	PC11. ascertain total cost of production (land, production practices, labour, equipment , fuel, administrative cost etc.)		1	1	0
	PC12. maintain records of investment and expenditure		1	1	0
	PC13. maintain necessary books of accounts		1	1	0
	PC14. identify government schemes and their eligibility for availing themselves of the same		2	1	1
	PC15. identify the nearest market		1	1	0
	PC16. identify local traders, mandis in the villages and nearby and compare the rates		1	1	0
	PC17. identify market rates of the produce season wise		1	0	1

	PC18. arrange cost-effective transportation of produce to the market		1	0	1
	TOTAL		25	14	11
10. AGR/N9902 Assimilating market information	PC1. understand the different sources of information at village-level through other farmers, neighbours, relatives, agricultural extension workers, agriculture specialists, concerned government and private departments like gram panchayat, co-operative societies and SHGs etc.	25	1	1	0
	PC2. identify different sources of information at market level through commission agents, mandi samitis and input dealers		1	1	0
	PC3. identify different sources of information through media sources like radio, newspapers, television, magazine internet, SMS in mobile phones etc.		1	1	0
	PC4. identify the appropriate sources of specific market information and proper ways to collect the required information		1	1	0
	PC5. identify the reliable source of information		1	1	0
	PC6. ascertain methods of collecting information through personal visit, telephone, internet and published reports, magazines and articles, workshops, attending seminars and training by agriculture extension service providers		1	0	1
	PC7. ascertain periodicity and cost of assessing market information		1	0	1
	PC8. ascertain availability and non-availability of specific market information		1	0	1
	PC9. perform documentation for analysing market information		1	0	1
	PC10. evaluate the authenticity of information received		1	0	1
	PC11. analyse the information for taking decision		1	0	1
	PC12. utilize market information for taking cost effective production decisions		2	1	1
	PC13. understand quality-wise and variety-wise prices of different products such as seeds, pest, fertilizer, etc		1	1	0
	PC14. use market information and decide on crop and area to be sown which could result in better productivity for the season		2	1	1
	PC15. utilize market information for taking effective pre-harvesting decisions like seed preparation, land preparation, nutrition management, weed management, pest and diseases management and irrigation management		2	1	1
	PC16. utilize market information for appropriate post-harvesting decision like drying, grading, bagging, transportation, processing and storage		2	1	1

	PC17.decide on marketing parameters like where to sell, when to sell, to whom to sell and what quantity to sell etc. which leads to profit		2	1	1
	PC18.understand benefits derived from market information		1	1	0
	PC19.make projections/future price movements through information sources		1	1	0
	PC20.understand price fluctuations in markets and take appropriate decision		1	1	0
	TOTAL		25	14	11
11. AGR/N9903 Maintain health and safety at the workplace	PC1. undertake basic safety checks before operation of all machinery and vehicles and hazards are reported to the appropriate supervisor	25	5	2	3
	PC2.work for which protective clothing or equipment is required is identified and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy.		2	0	2
	PC3.read and understand the hazards of use and contamination mentioned on the labels of pesticides/fumigants etc		1	1	0
	PC4.assess risks prior to performing manual handling jobs, and work according to currently recommended safe practice.		1	1	0
	PC5.use equipment and materials safely and correctly and return the same to designated storage when not in use		4	2	2
	PC6.dispose of waste safely and correctly in a designated area		3	1	2
	PC7.recognise risks to bystanders and take action to reduce risk associated with jobs in the workplace		1	1	0
	PC8. perform your work in a manner which minimizes environmental damage all procedures and work instructions for controlling risk are followed closely.		1	0	1
	PC9. report any accidents, incidents or problems without delay to an appropriate person and take necessary immediate action to reduce further danger.		1	1	0
	PC10. follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency.		1	0	1
	PC11. follow emergency procedures to company standard / workplace requirements		1	0	1
	PC12. use emergency equipment in accordance with manufacturers' specifications and workplace requirements		1	0	1
	PC13.provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques		1	0	1
	PC14. recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate		1	0	1

	PC15. report details of first aid administered in accordance with workplace procedures.		1	1	0
			25	10	15
	TOTAL	500	500	250	250

SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

While collecting data from the companies for the occupational map, we also took feedback from industry, training institutions & farmer groups which was collected with respect to roles for which qualification packs development, was to be prioritized. This was largely based on volume of people required, quantitative and qualitative shortfall which the Industry feels they face. Governing council of ASCI and Occupational Standards Committee which comprises of experts & senior leaders gave final approval and endorsement for the same.

What is the estimated uptake of this qualification and what is the basis of this estimate?

It is difficult to estimate uptake of this qualification at this stage as the sector not only is highly unorganized but also no in-depth skill-gap study has been done. The QP has been developed taking feedback from industry for demand though again sample size may not lend to accurate figures. Working closely with NSDA would indicate precise requirements.

What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work and also our occupational map/QPs are put on ASCI & NSDC websites.

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

- Any institution / individual is welcome to send feedback, which is recorded and considered during next review cycle.
- Communication will be sent for any feedback to all the main stakeholders/users one month prior to the review of the qualifications pack.
- A formal review is scheduled in one year time

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

SECTION 3

SUMMARY EVIDENCE OF LEVEL

Level of qualification: **4**

Summary of Direct Evidence (from learning outcomes):

Farmers manage the operations and functions of farms, such as growing crops, and marketing farm products. He works independently and is responsible for own work & learning. He is the decision-maker in hiring farm workers; and in determining amounts and kinds of crops to be grown and livestock to be raised, and in purchasing farm machinery, livestock, seed, feed and other supplies.

Though the farmer may be involved in supervision of the hired workers but these are casual hiring and do not involve structured supervision and most of the farm activities are independent activity.

Bamboo Grower					
AGR/ Q6101					
Process required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
Individual need to perform routine and predictable processes of Bamboo Cultivation such as preparation and management of nursery, preparation of planting material, land preparation, planting, inter cultivation operations, harvesting and post harvest management.	The individual need factual knowledge of Bamboo Cultivation, and related matters such as border crop, mixed crop, life cycle of Bamboo, maturity period, flowering time, irrigation, quality preparation of planting material, pest and disease in	The individual manage the operations and functions of Bamboo Cultivation which are routine & predictable, such as nursery preparing, preparing planting material, planting, soil treatment methods, crop protection, harvesting post	In order to correctly perform the tasks related to cost of cultivation, selection and application of crop protection techniques, soil sampling, testing, updating the market price, value for Bamboo, decide sale based on market rates, to ensure health and safety, to communicate with colleagues,	The individual is responsible for Growing bamboo from preparation of planting material to the harvesting and sale of the produce. Individual works independently and is responsible for own work & learning. They are not supervised by anyone else (as required under Level 3), nor do	4

Individual need to work in familiar. The individual is able to make decisions pertaining to their area of work, and work in situations of clear choice	Bamboo cultivation, harvesting period and post harvest techniques, perish ability, market value and demand etc.	harvesting etc. using appropriate rule & tool keeping in consideration the quality aspects	marketers individual requires communication skills with required clarity, basic arithmetic skills and basic understanding of social, political and natural environment.	they have any responsibility of supervision for others' work and learning (as required under Level 5).	
Level : 4	Level : 4	Level : 4	Level : 4	Level : 4	

Summary of other evidence (if used):

SECTION 4

EVIDENCE OF RECOGNITION OR PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Career path in agri sector is generally in terms of activities done & ownership of responsibility because they are primarily self-wage employment/entrepreneurship roles.

However, there are occupations in the organized segment (Agri Industries) in which career pathway has been identified as illustrated in the Occupational Map attached as Annexure sl.no. 3

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here: