

AQUA-TNET3

Promoting innovation and a European dimension through Lifelong learning in the field of Aquaculture, Fisheries and Aquatic Resource Management – Thematic Network

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Update of WAVE & VALLA competences (draft)

Workpackage(s) concerned: WP5

Nature of deliverable: Report

Due date	Initial Submission date by M. Eleftheriou	2 nd reviewer date	Date accepted by Management
M6	M7		

Dissemination level: RE

PU Public	
RE Restricted to other programme participants (including the Commission Services)	X
CO Confidential, only for members of the consortium (including the Commission Services)	

Indicate any document related to this deliverable (report, website, ppt etc and give file name)*

- Annex - WP_5.A.1.2_Valla leaflet updated 2012.pdf

SUMMARY

Objectives:

Update of WAVE/VALLA Master List of aquaculture competences

Rationale:

A realistic and very valuable context and basis for this task has merged in the EU ESCO (European Skills/Competences, qualifications and Occupations) Initiative, whose main objective is to develop a multilingual, structured, easy-to-use terminology of skills/competences, qualifications and occupations. The first Reference Group set up to develop and implement ESCO concerned the area of aquaculture, fisheries, agriculture and forestry. The WP5 leader, M.Eleftheriou, is a member of this Reference Group which is using the WAVE/VALLA Master List of aquaculture competencies as a prime source for the occupational profiles in aquaculture and fisheries. This update, a contractual deliverable, has been undertaken in conjunction with the ESCO ongoing work, which will ensure its dissemination and eventual implementation throughout the entire European VET system.

Results:

ESCO's occupation structure is based on ISCO, the International Standard Classification of Occupations and will be carried through three main pillars: occupations, skills/competences, and qualifications. As this is a long-term project that can only be achieved gradually and requires a pragmatic, step-by-step approach in order to construct an operationally useful European terminology of skills/competences, qualifications and occupations, Deliverable 5.A.1.2 will be presented at its current and ongoing state of development.

Teams involved:

Margaret Eleftheriou, WP5 leader
Catherine Pons, FEAP industry representative

Geographical areas covered:

All EU member states

Labourer ISCO 9216 Simple tasks as described				VALLA Level 1 Basic Manual	
Labourer				Farm labourer, weekend feeder	
FISHERIES		AQUACULTURE			
	FRESH WATER	MARINE			
Fish	Fish ISCO	Fish ISCO	Shellfish ISCO	VALLA Finfish competencies	VALLA Shellfish
Prepare nets, lines	Feed fish	Feed fish	Feed molluscs	Prepare fish holding units (50)	Establish & deploy shellfish spat collection
Prepare tackle	Clean ponds, etc	Clean seabed	Clean seabed	Stock fish holding units (51)	Collect & sort wild shellfish spat
Operate fishing gear	Load/unload	Load/unload	Load/unload	Gather live fish for grading (80)	Handle shellfish broodstock
Clean, sort, pack fish	Grade fish	Grade fish	Grade shellfish	Grade live fish manually (81)	Grade shellfish manually
Clean deck, hold	Sort fish	Sort fish	Sort shellfish	Grade live fish (equipment) (82)	Grade shellfish (equipment)
Handling mooring lines	Harvest fish	Harvest fish	Harvest shellfish	Feed fish manually	Harvest shellfish for human consumption
	Pack fish	Pack fish	Pack shellfish	Conduct swimthroughs (52)	Prepare for transport of shellfish
	Minor repairs equip.	Minor repairs equip.	Minor repairs equip.	Make up feed onsite	Prepare for transport of live shellfish
	Monitor livestock-basic	Monitor livestock-basic	Monitor livestock-basic	Set up feeding regime (supervised)	Manually lift, transfer, position, set down load
				Feed broodstock according to nutritional requirements	Maintain & clean floats & mooring ropes
				Prepare for transport of fish	Clean off fouling
				Prepare for transport (live fish)	Identify major European shellfish species
				Transport fish	Load shellfish for depuration
				Transport live fish	Unload shellfish from depuration
				Manually lift, transfer, position and set down load	Maintain depuration equipment
				Culture phytoplankton/microalgae	Measure water flow
				Produce live prey (rotifers, <i>artemia</i>)	Know how to respond to work emergencies
				Operate photoreactors	Know how to fight fire at aquacult. facilities
				Handle fish broodstock	
				Collect naturally spawned fish eggs	
				Establish & maintain fish eggs in hatchery	
				Collect dead fish in tanks and cages	
				Clean and disinfect equipment and treatment systems	
				Measure water flow	
				Manure ponds	
				Operate biological filtration	
				Operate on-growing recirculation systems	
				Operate fish capture equipment	
				Measure water quality: temperature, oxygen, salinity, pH, N2, NO2, NH4, CO2, turbidity, chlorophyll	
				Maintain & clean floats & mooring ropes	
				Clean off fouling	
				Change nets	
				Know knotting & splicing	

Semi-skilled/skilled workers ISCO 6151, 6152, 6153				VALLA Level 2 & 3 semi-skilled/skilled	
Fish farmer, fish hatchery manager, oyster farmer, seafood farmer, algae cultivator, Pearl cultivator, skilled fish farm worker, skilled seafood farm worker Coastal fishery skipper, fisherman/woman (coastal waters), fisherman/woman (inland waters),				Farm assistant/husbandry person, fish farm worker, farm technician, hatchery technician, grading technician, engineer, health observer, moorings technician, maintenance assistant, electrician, deckhand, boatman, diver. Lab technician, station technician, field assistant, ghillie, Baillie, warden	
FISHERIES		AQUACULTURE			
	FRESH WATER	MARINE			
Fish	Fish ISCO	Fish ISCO	Shellfish ISCO	VALLA Finfish competencies	VALLA Shellfish
Cleaning, freezing, icing, salting catch	Breeding fish	Breeding fish	Breeding Shellfish	Prepare fish for harvesting, harvest humanely for human consumption	Establish & deploy spat collectors
Renting/investing in fishing vessels	Raising/cultivating fish	Raising/cultivating fish	Raising/cultivating molluscs	Feed fish manually, check feeding behaviour, calibrate & operate automatic feeding machines, know how to operate computerised feeding systems, collect info on growth	Identify major European farmed shellfish species
Preparing and repairing nets & other fishing gear	Collecting/recording growth	Collecting/recording growth	Collecting/recording growth	Plan & conduct wild fish broodstock capture , handle wild broodstock, quarantine wild broodstock, control broodstock sexual cycle, determine sexual maturity, feed broodstock techniques to induce spawning	Monitor & maintain production of shellfish, monitor shellfish yield, understand husbandry & harvesting effects on flesh/shell quality
Operating fishing vessels to, from or at fishing grounds	Collecting/recording production	Collecting/recording production	Collecting/recording production	Spawning: techniques to induce spawning, induced spawning on nests, strip salmonids, hand strip marine flatfish,	Collect information of farmed animals' growth: monitor use of resources (food, oxygen, energy, water, resources)
Baiting, setting, operating, hauling in fishing gear	Collecting/recording environmental data	Collecting/recording environmental data	Collecting/recording environmental data	Condition broodstock , incubate eggs until hatching, assess quality of eggs, produce eyed eggs, elimination of egg adhesiveness, hatch & maintain new born larvae	Organise shellfish depuration, monitor depuration, monitor depuration water quality
Gathering aquatic life from shore, shallow waters	Stock examination for disease/parasites	Stock examination for disease/parasites	Stock examination for disease/parasites	Produce juvenile fish : collect naturally spawned fry, monitor hatchery production, pregrow cultured species, care for juveniles, grade young cultured species	Maintain shellfish depuration equipment (clean, UV lamps, etc)
Maintaining engine fishing gear	Monitoring environments for best maintenance	Monitoring environments for best maintenance	Monitoring environments for best maintenance	Organise the production of farmed fish for sale or transfer: set up harvesting equipment, prepare health documents for transport of stock, plan future production	Measure water flow, measure water currents at sea sites, understand impacts of water currents on farm
Keeping records of transactions, activities, weather, sea, budgets	Directing/monitoring spawning of fish	Directing/monitoring spawning of fish	Directing/monitoring spawning of molluscs	Regulate aquatic production environment : measure water flow, manage water intakes & catchments, manage oxygen use, manure pools, operate fish capture equipment, collect dead fish, clean & disinfect holding units	Sample & send shellfish for biotoxin testing, sample & send shellfish for microbiological testing
Sorting, storing catch in holds with salt & ice	Directing/monitoring egg incubation	Directing/monitoring egg incubation		Treat fish health problems : apply treatments, assist with vaccination (immersion & injection), screen for deformities, collect dead fish, identify diseases, clean & disinfect tanks	Identify common diseases, monitor mortalities, collect & preserve lesions for vet. examination
Removing catches from fishing equipment, measuring, dumping	Directing/monitoring fry rearing			Maintain fish health : apply treatments, assist with vaccination (immersion & injection), screen for deformities, collect dead fish, identify diseases, clean & disinfect tanks, collect & preserve lesions for analysis	Assess biological factors : algae, fouling organisms, jellyfish, others
Directing fishing operations	Knowledge of management	Knowledge of management	Knowledge of management	Assess biological factors : algae, fouling organisms, jellyfish, others	Interpret biological & physico-chemical data to assess benthos & water quality
Supervising crew	Knowledge of fish culture	Knowledge of fish	Knowledge of shellfish	Measure water quality : temperature, oxygen,	Measure water quality :

members	techniques	culture techniques	culture techniques	salinity,pH,N2, NO2, NH4, CO2,turbidity, chlorophyll	temperature, oxygen, salinity,pH,N2, NO2, NH4, CO2,turbidity, chlorophyll
	Cleaning/freezing/icing fish/preparing fish for shipment			Waste water treatment according to regulations: biowaste, chemical waste	Waste water treatment according to regulations: biowaste, chemical waste
	Maintaining buildings/ tanks, machinery, boats, other equipment	Maintaining buildings/ tanks, machinery, boats, other equipment	Maintaining buildings/ tanks, machinery, boats, other equipment	Maintain aquaculture facilities: identify equipment needs, carry out routine maintenance, minor repairs, maintain floats and mooring ropes	Maintain aquaculture facilities: identify equipment needs, carry out routine maintenance, minor repairs, maintain floats and mooring ropes
	Delivering or marketing products	Delivering or marketing products	Delivering or marketing products	Operate lifting gear: winch/sea crane/forklift/ telescopic loader	Operate lifting gear: winch/sea crane/forklift/ telescopic loader
	Renting/investing in buildings, equipment, machinery, purchasing supplies	Renting/investing in buildings, equipment, machinery, purchasing supplies	Renting/investing in buildings, equipment, machinery, purchasing supplies	Know how to operate transportation gear: car/ forklift/ truck/ tractor/ trailer/ conveyors	Know how to operate transportation gear: car/ forklift/ truck/ tractor/ trailer/ conveyors
	Supervising aquaculture/ hatchery workers	Supervising aquaculture/ hatchery workers	Supervising shellfish workers	Operate water disinfection equipment: mechanical filtration/biological filtration/ UV/ ozonation	Operate water disinfection equipment: mechanical filtration/biological filtration/UV/ozonation/
	Training aquaculture/ hatchery workers	Training aquaculture/ hatchery workers	Training shellfish workers	Operate water heating equipment: electrical heaters, heat exchangers, heat pumps, solar pumps	Maintain accurate farm records
				Operate water oxygenation systems: surface aerators, paddle wheel, column aerators, cascade aerators, pure oxygenation systems	Know & understand company policies
				Promote, monitor & maintain health, safety & security	Promote, monitor & maintain health, safety & security



VALIDATION OF ALL LIFELONG LEARNING IN AQUACULTURE

The VALLA project was developed in order to pilot methods of recognising and accrediting lifelong learning in the aquaculture sector via the European Qualifications Framework (EQF)

Background

European aquaculture is a fast-growing innovative industry, its success relying on a joint practical and theoretical knowledge base, whose personnel regularly require specialised training. But this type of training (work placements, on-the-job training, short courses) which are more than ever essential in today's fiercely competitive business world, fell outside traditional accreditation systems.

The adoption of the EQF in April 2008 provides a solution on a European scale: it links national qualifications systems, acting as a translation device to make qualifications more readable, which in turn is expected to promote mobility between countries and facilitate lifelong learning. It covers general and adult education, vocational education and training, as well as higher education, and applies to all types of qualifications.

The key challenge of VALLA concerned the status of unaccredited short-term sectoral and professional training courses, a challenge which was met in part by the parallel development of the European Credit System for Vocational Education and Training (ECVET). Based on the aquaculture sector, VALLA developed a generic online tool which enables course developers to define learning experiences where competence is acquired, such as short courses, workshops, work placements, field trips etc., in terms of learning outcomes and competences, in a user-friendly methodology.

Achievements

VALLA has contributed towards the aims of the EQF:

- By developing competence-based learning outcomes for a specific sector
- By providing a reference for the validation of non-formally acquired competences
- By linking such reference points to established sectoral standards

How

VALLA built on the results of WAVE, a pan-European project that identified the skills and knowledge needed to work in aquaculture across Europe. WAVE produced a Master List of Competencies! (248 descriptors in 16 categories), which are descriptors of the competencies used in primary production in aquaculture.

VALLA took WAVE one step further; with tools and protocols to move from the competency list to actual validation of the diverse types of formal and informal training in the aquaculture sector.

Beneficiaries

VALLA Tools and Protocols has benefited

Providers of training and education

To describe short training courses in terms of competence-based learning outcomes and credit points with VALLA tools and protocols

Employees

To substantiate skills and competences learned through on-the-job experience

Job market entrants

To add relevant but previously unaccredited study stays, student jobs, and other useful experience to CVs to reflect the complete extent of job qualifications

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